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BULLETIN OF THE UNIVERSITY OF WISCONSIN
NO. 101.
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# THE HISTORY OF AGRICULTURE IN DANE COUNTY WISCONSIN

BY

**BENJAMIN HORACE HIBBARD**
*Associate Professor of Economics, Iowa State College*

A THESIS SUBMITTED FOR THE DEGREE OF DOCTOR OF PHILOSOPHY
UNIVERSITY OF WISCONSIN
1902

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# PREFACE.

The purpose in choosing this subject for a thesis was to make a beginning in an interesting and unexploited field of economic history, rather than to produce anything of widespread interest. Yet as limited as the subject is, it has proved to be too extensive for a monograph of this kind, and several chapters are withheld, while still others remain for future research. There is an opportunity for much work on the live-stock industry, but it can be treated more advantageously for the state than for the county. The tables in the appendix give a few bare facts on the subject.

There is a wealth of material for the writing of agricultural history, but as indicated in the short bibliography of this thesis, it is in newspapers and various government reports for the most part, and great patience is required for its discovery and collation. The information to be had at first hand is also of prime consideration. Such work as this, when further developed, ought to find a place in college courses on scientific agriculture or general industry.

Should this study seem to be overburdened with minor detail, it is largely due to the fact that it involves the interpretation of the simple pioneer's life, of the locality studied. To strip it of these amplifications would, in the estimation of the writer, rob it of its main value.

The writer wishes to acknowledge his obligations to Professor Ely and Professor Turner of the University of Wisconsin, under whose direction the work was undertaken, and to whose kindly suggestions and encouragement much is due. Valuable criticisms have been offered by Dr. H. C. Taylor of the same University. But thanks are due no less to the good people in various parts of the county who so generously assisted in bringing back the spirit of the early experiences of the pioneer, without which it would have been impossible to give meaning to much of the data available. Lastly, the librarians of the Wisconsin Historical Society and the University earned the writer's gratitude by assisting him more than mere duty required.

The maps in the appendix were drawn by Mr. J. W. Johnston of Ames, Iowa.

*Iowa State College, Ames, Iowa, September, 1904.*

# PART I.—EARLY CONDITIONS.

# HISTORY OF AGRICULTURE IN DANE COUNTY.

## CHAPTER I.

### INTRODUCTORY.

It is the purpose of this work to give a view of the agriculture of Wisconsin both past and present. As it is, however, impracticable to deal with the state as a whole, the choice of a part of the state which shall at once be suitable in size and representative in character is a matter of no small consequence; and fortunately the county of Dane seems to contain within its borders a very generous share of the agricultural activities and possibilities of the entire state. More especially is it representative of the southern portion of Wisconsin, that is to say, of the agricultural portion. The name Dane was given to the county in honor of Nathan Dane of Massachusetts, the reputed author of the Ordinance of 1787 for the Northwest Territory, and not because of the presence of Danes as is frequently supposed. The county was set off from the west part of Milwaukee, and the east part of Iowa counties in 1836 but was not organized as a separate county until 1839.[1]

The county is a large one, being more than twice the size of the common checker-board county, and contains thirty-five townships, or towns, as they are for the most part called.[2] Its position is midway between Lake Michigan and the Mississippi river and twenty-four miles north of the Illinois line. "The forty-third parallel of latitude passes within a minute fraction of the center at longitude 89° 20′ west from Greenwich. Its altitude above sea level is 788 feet at the level of Lake Mendota, and is 210 feet above Lake Michigan at the same point.[3] The area is about 1,235 square miles, or 790,400 acres. In shape it is an oblong with one corner lacking, the Wisconsin river forming the boundary at the northwest for some ten or twelve miles. About thirty-five square miles are covered with lakes, leaving the land area approximately 1,200 square miles.[4] Were it not for this water area, and the small triangle which would naturally belong to the county but for the Wisconsin river, Dane county would be almost exactly the size of the state of Rhode Island, yet it constitutes less than one forty-fifth of the state of Wisconsin. By number the towns are designated as townships 5 to 9 inclusive north (that is north of the Wisconsin–Illinois state line taken as the base, and ranges 6 to 12 east of the fifth principal meridian. Thus it is thirty by forty-two miles, the long dimension lying east and west. On the north are the counties of Sauk and Columbia; on the east Dodge and Jefferson; on the south Rock and Green; on the west the county of Iowa. The jog which occurs in the east and west lines between ranges 9 and 10 is the result of two separate surveys which for some reason or other failed to match, this north and south line having been previously fixed as the division between the Milwaukee and the Mineral Point land districts.

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[1] Lapham's *Wisconsin*, p. 218.

[2] Townships will hereafter be referred to as *towns*, while towns, as usually known in the west will be called villages, since this usage seems to be a permanent evidence of the early New England and New York settlers.

## DRAINAGE AND TOPOGRAPHY.

About 120 square miles drain toward the Wisconsin river, the rest of the country shedding its waters to the southeast where by various channels they reach the Rock. The dividing ridge between these two river systems is the long, irregular, limestone ridge of prairie land which extends well across Columbia county to the north. This ridge is cut by a deep valley which runs from Lake Mendota to the Wisconsin river and is only about eighty feet above the lake at the highest point. It is said that the Indians used this as a "portage" between the two river systems, there being but a short interval between the head waters of the two little streams which run in opposite directions through the valley.[5]

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[3] *Statistics of Dane County.*

[4] This is condensed from the *History of Dane County*, and supplemented by observation.

The surface of the county is for the most part rolling, though considerable areas are flat, while it is not unusual to find several square miles of country that is rugged to the extent of being nearly worthless. The most important of these hills are the Blue Mounds in the western part of the county which rise about a thousand feet above the surrounding country, while radiating from them are long high ridges of hills with narrow valleys between. At the northwest corner is a tract of broken country, the hills being little cone-shaped knobs, rising 200 or 300 feet above the river, and showing on their rough sides the various geological strata of which they are remnants. The southwestern part is hilly, the streams having cut valleys a hundred or two hundred feet below the general level. This is a "driftless" district (see Map III. in appendix) and here the drainage is perfect, for there are no lakes and hardly a swamp.

Within the glacial area there is a marked difference in the general appearance. Here we find the lakes and the swamps, the latter often having no outlet on account of the irregular moraines. The well-known "four lakes" lie in a northwest and southeast direction almost parallel to the line marking the limit of glacial action, and the Yahara, or Catfish, which drains them and is the main river within the county, has had to wear its way across many of these small hills. The other lakes, though numerous, are comparatively unimportant, while the streams are neither so numerous nor so regular in their courses as in the driftless area.

"The Dane County list of geological formations includes nearly the whole Wisconsin series." Map II. (see appendix) which is enlarged from the atlas of maps made by the Wisconsin Geological Survey, 1882, gives a good general idea of the formations. Since we are here interested in geology only as it helps us to understand soils and vegetation we will turn our attention at once to these matters. The soil map is far from being satisfactory. It could not be expected that a map made for a whole state could be accurate in minute details, but it seems hardly pardonable to have the town of Roxbury represented as sandy loam, when as a matter of fact the soil is a stiff clay with the exception of a narrow strip along the Wisconsin river, and a few unimportant creek bottoms extending back among the hills. And yet if not taken too seriously, the map is worth something; it probably gives a fair idea of the relative amount of prairie, clay, and swamp soils, and in the main, their distribution is shown with tolerable accuracy, the above mentioned error being much the worst.

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[5] Governor Doty's first message to the assembly.

It is of interest to note the variety of soils as seen in the different geological areas, but the very fact that such a number of formations appear within so small a compass complicates rather than facilitates such a comparison. In the first place the greater part of the county is modified by glacial drift, and within the driftless area several distinctive soils are evident. It must be remembered that the elevations of this area are entirely the result of erosion, and thus the level of Blue Mounds a thousand feet above the Wisconsin river is a point in an ancient plain. The three upper strata of this mound are limestone, the little plain of some sixty acres at the very summit has a rich black calcareous soil, and the blue-grass carpet which covers every nook is as luxuriant as on any lawn. Farther down, at about the level of the Galena limestone, though no doubt mixed with debris from the strata above, is another little plain somewhat larger than the first and with identical characteristics. Throughout the driftless area these limestone soils are to be found along the ridges of hills that separate the streams, but for the most part the finer and better part of the soil has made its way to a lower level, thus leaving a representative limestone soil on comparatively small spots only. The St. Peters sandstone is quite soft in most places and hence seldom remains as the permanent bed of a stream, and on this account there is no considerable extent of sandy soil resulting from this formation; the sand appears merely as a narrow fringe around the borders of the Trenton limestone districts or is mingled with the stiffer clays of the Magnesian limestone below, and, for the most part is a valuable addition. Along the Wisconsin and around the lakes the Potsdam sandstone comes to the surface and here we find a soil which may very properly be termed sandy and is the poorest in quality with which we have to deal. In wet years these sandy lands produce excellent crops, indicating that it is owing fully as much to the very porous character of the sub-soil as to a lack of vegetable food, that they are of less value. The prairie soil is nearly everywhere black with no great amount of sand and usually with a clay sub-soil containing considerable gravel, while within the glacial area boulders are everywhere numerous. This black soil is not deep, as one who is used to the great stretches of prairie beyond the Mississippi understands it, but is from six inches to a foot on an average with a thicker layer in the valleys. This prairie soil is decidedly stiffer than that in Iowa or Nebraska because of a larger percentage of clay, and no doubt the fact of the more rolling surface has resulted in a smaller deposit of humus. It is a common sight in almost any part of this county to see brown spots in the plowed fields where the plow has reached below the black soil and turned up some that is largely clay. It will be noticed from the maps that the clay soils and the oak districts are for the most part identical areas. When this land is first plowed there is a brown or black layer of rich leaf, or other vegetable mold, which has been accumulating for ages, and it is to this that the phenomenal fertility of the virgin soil was largely due. This, however, gradually disappears with cultivation, leaving a yellow clay which, though rich, is a soil not easily worked and which must be handled with no little skill to prevent it from "baking" and becoming almost unmanageable for the year. Plowing must be done when the ground is comparatively dry; even the trampling by horses or cattle is counted a serious matter when the soil is full of water.

In the marshes or dry lake beds is a rich black soil termed muck. This is rich in humus, and even partially decayed vegetable matter appears in large quantities. For the most part this land is used for meadow or pasture though occasionally a piece is cultivated, and, especially where there happens to be a liberal admixture of sand, rendering it sufficiently porous, it makes the most productive of fields. Such land yields large quantities of tobacco[6] or corn, but is not a success for small grain, being too rich in nitrogen, thus making a great weight of straw and leaf with too little mineral substance to afford the required stiffness of stalk, and the result is a tangled mess of straw with very little grain. The texture of the soil in general resembles that of Illinois much more nearly than that of Iowa or Minnesota, yet it is "heavier" than that of either of these states, that is to say, it has more clay and less sand.

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[6] It is very rarely that it will do for tobacco, but when it happens to be mixed with sand it yields an excellent crop.

Along the north line of the county, covering parts of sections 3, 4, and 5 of the town of Roxbury, is a little stretch of soil worthy of special mention. This is on the border of Fish lake. At some time when the lake must have been several times its present size, there was deposited a layer of blue clay not far from a foot in thickness. The early settlers avoided the spot until all other land which seemed capable of being made into a farm was gone, and then reluctantly took this. However, it has turned out better than they thought. It seems to be fairly rich in plant food, so the only difficulties are those arising from its mechanical nature. By all means it must not be worked when wet, and even with the utmost care in this respect, it is inclined to remain in a comparatively hard state, thus giving off moisture readily and rendering it unable to withstand a drouth. Clover improves this soil and at the same time makes a very good crop, hence there is a tendency to raise clover and corn rather than small grain. Coarse manure is beneficial, as it helps to keep the ground porous.

## VEGETATION.[7]

It is by no means necessary to go into detail in describing the great variety of plants found in this part of Wisconsin. The list of trees, shrubs, flowering plants, and grasses, is a long one, and the picturesque and pleasing aspect thus presented to the early travelers was frequently the source of extravagant and poetic effusions which are still preserved in the old newspaper columns. The nature and extent of woods and prairies, with the means they afforded for homes and agricultural undertakings are the main questions that concern us in this connection. There are to be found numerous accounts of travelers who "passed through dense forests in the region of the 'Four Lakes' and Blue Mounds," but by all that can be gathered from men who still remember the woods as they appeared at the time of settlement it seems that the "dense forests" were by no means entitled to so dignified a term. The principal trees found within the county were white oak, burr oak, red oak, hard and soft maple, box elder, elm, ash, walnut, hickory, cottonwood, birch, tamarack, willow, and plum, together with a few unimportant varieties. There was also a considerable number of shrubs and vines, which at times formed such a tangled thicket that passage through them was difficult and slow. But, with all this variety of forest elements there was very little area given over wholly to its influence, and as a matter of fact the surveyor's or prospector's progress was seldom seriously impeded by dense woods. Map I. (appendix) showing the soil and general vegetation of the county, it will be seen, gives the "oak lands" as the largest in extent. By that we understand merely that the oaks predominate and it is within this area that all the other trees are found, a single exception being the tamaracks, not shown on the map at all; these were to be found in a few swamps in the northeastern part of the county. And even this does not give an adequate idea of the original condition of the woods. We have here an excellent demonstration of the constant struggle going on between woods and prairie, in a region favorable to either; that is, aside from soil considerations, a region moist enough for the former, and at the same time dry enough for frequent and extensive fires. Along the ravines and on the steep hillsides the woods triumphed, and the grasses are few and unimportant; on the level, or rolling surface of a much larger area, fires ran from time to time destroying the trees entirely, thus forming prairies, or, as was oftener the case, killing out all trees except the burr and the white oak which seem able to stand considerable punishment of this nature. In this way the famous "oak openings" so common in Wisconsin and Illinois were made. These "openings" have been aptly described as immense "orchards" of stately oaks—usually the burr oak—standing well apart, their superb tops spreading over a radius of forty or fifty feet, yet with plenty of room for wind and sunshine between, favoring the presence of prairie grasses or hazel brush.[8] If we could go back over the natural history of the region we should without doubt find these oak openings and the prairies alternately advancing and receding over the same spots. This is shown conclusively in the changes that have taken place within the past half century: in places where the scattered woods have succumbed to ax and fire the prairie grass has come in and flourished; while,—and this more frequently,—the oaks have sprung up like magic and made fine groves where not a tree was to be seen until the settlers stopped the annual course of the fires.[9] A great many fields are to be seen which have the appearance of having been wrested from veritable forests, if one is to judge by the trees around the border. Usually this ground was broken by the powerful ox teams hitched to plows of immense proportions, and only occasionally was it necessary to turn aside for some oak, or to use grub-hoe and ax to remove roots too large or too hard to be cut by the share.

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[7] For an extended treatise on Wisconsin flora see an article by J. A. Lapham in *Proceedings of Amer. Assn. for Advancement of Science.*

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[8] In the towns of Rutland and Albion are still to be seen a few acres of these trees much as they were fifty years ago except that blue-grass replaces the brush and wild grass among them.

For the most part the prairies were featureless; the principal grasses were short and thin on the ground, but the sod was tough. This grass was of great value to the settler, providing pasture for his teams and cows in summer and hay in winter. In quality it compares favorably with cultivated grasses but when mowed for a number of years, decreases very much in yield, and if pastured, soon disappears altogether. To one familiar with the broad prairies[10] of the West these little patches of grass seem hardly worthy to be called by the same name, and there is in fact a wide difference between them, other than in size. Here the prairie soil is shallow, the grass rather scant, it being almost altogether on high dry land with the intervening depressions appropriated by woods, and any considerable area of wet land being invariably a swamp or marsh. In the West, for example in northwestern Iowa, many parts of Minnesota, or in eastern Nebraska, the prairies reached mile after mile across a gently undulating plain with but few ridges so high as to bear thin crops of grass, while the long gradual slopes and sloughs, with their deep black soil, often produced "blue joint" and other grasses in quantities equaling the yields of clover and timothy of the present day. The marsh grasses in Dane county make a ranker growth and were the main reliance for hay until the cultivated grasses became common; even yet marsh hay is of great importance, though clover and timothy form the bulk of the product, and the marshes are now much used for pasture. This coarse wiry grass was utilized by the early settlers for covering cattle-sheds, horse-stables, and granaries, and occasionally a foreigner who understood the art of thatching made of it a very serviceable roof for his dwelling.

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[9] From the home of Mr. Amos Chase of Dane, there are now extensive stretches of woods to be seen; these groves are largely of black oak and are of fair size, often measuring from eight to eighteen inches in diameter, yet Mr. Chase tells me that when he moved to his farm in 1853 he could count every tree in sight without any difficulty. A few miles from here Mr. Robert Steele, in about 1849 or '50, plowed through a half mile or more of hazel brush and grubs (oak roots grown to great size, but with almost no tops because of repeated burning) for the purpose of making a permanent wagon road. The road is still in use, and of the usual width, yet the oaks, in places, almost meet over the traveler's head.

[10] *Prairie* in a prairie region is used to denote wild, uncultivated land, and not merely land which at one time was covered with grass instead of woods, as it is made to mean in Wisconsin.

## CHAPTER II.

### THE MOVEMENT OF SETTLERS TO WISCONSIN.

No attempt will be made to give in detail the multifarious reasons which resulted in the movement of so many different classes of people to Wisconsin during the second quarter of the nineteenth century; to do so would require a history of Europe and America for that period. All that is here attempted is to show in rather rude outlines, the more immediate influences that contributed to the peopling of southern Wisconsin with the class of emigrants who gave form and color to the whole subsequent history of the state.

It will be remembered that Wisconsin had been more or less known to white men for two centuries before, and a considerable number of settlers had made their way to her borders. Hunters and trappers had long been familiar with the Fox–Wisconsin waterway, and vague reports were current about a lake region to the south of the portage. However, it was the lead region which first attracted workmen who settled down to making a livelihood by plain toil within the territory. Many of these miners at first with no thought of remaining longer than a season or two, in fact going back to civilization to pass the winters, finally became permanent residents and took part in the early territorial organization.

These men had come from the Illinois country, many of them finding their way to the West along the course of the Ohio. Thus the first settlement of consequence, outside the old trading posts, was made in the southwestern part of the state, by men who had made their way against the current of the Mississippi, or had come overland from the lead regions of Illinois. The first modern agriculture within the state was in the vicinity of these diggings, before the land was put on the market. Unlike the hunters and trappers, the miners were anxious to have farmers for neighbors, so as to bring the prices of provisions to a lower level and, in consequence, the reports given by these men as to agricultural possibilities of the new district were glowing yet not untruthful.

The first permanent settler in Dane county, Mr. Ebenezer Brigham, was a lead miner who was tempted to set his stakes far in advance of his fellow adventures. The Indians still claimed the region and killed several men near this pioneer's cabin. The Winnebago war in 1827, and the Black Hawk war of 1832, prosecuted as they were by Illinois militia, gave a large number of energetic young men a glimpse of a fine country, and as Professor J. D. Butler puts it, each one of the soldiers in the Black Hawk war chose for himself a fine quarter section and came back to settle on it.[11] This is not intended for a literal statement, but it is certain that many of these boys did return to take up government claims. It was the final blow to the Indians given by these wars that brought the region into good repute among the peacefully inclined foreigners, and even the aggressive New Yorker and New Englander preferred a habitation safe from Indian depredations.

The next general force that induced western emigration was a financial one, and its effects were exerted in a twofold manner:

First, the ease with which money was obtained by speculators, especially in the year 1836, resulted in an unusual interest in western lands. Hundreds of pieces of this land changed hands within a year or two, the presumption being that the purchaser was unable to hold it, or was at least sufficiently discouraged to prefer some other sort of investment. There are various scattering reports to the effect that much of this land was sold for less than had been paid to the government for it. The records of deeds given do not in any considerable number of cases bear out the statement, but still it seems not altogether unlikely. At any rate, much of the land was re-sold at about the government figure, and on mortgage at that, thus helping those of little or no means to get hold of a piece of land. There are also numerous instances of exchanges of western land for various pieces of eastern property.

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[11] *Wis. Hist. Coll.*, X., 80.

Second, the failure in business of a large number of men in the East turned attention to the West as a place in which to start anew. The importance of this factor can hardly be overestimated. It was not men fond of the fringed hunting shirt, the long rifle, and the general absence of civilization; not the class who were anxious to escape from the restraints of old traditions and customs, not to say laws, who turned their faces toward Wisconsin during the few years following the panic of 1837. The majority of the settlers who bought government land in Wisconsin before 1845, were from the farms and villages of New York and New England. True, there were many Norwegians and Germans who came almost as early, but these were not yet citizens, and so it may be said without qualification, that the people who first organized the territory of Wisconsin, and for that matter almost all of the counties within the state, were the sober New York and New England people.

Of this there is abundant proof. For example, in the town of Roxbury, Dane county, the Germans have been entirely in the majority, except for the first few years, and this is an important exception. In the list of town officers for the first year or two there is not a German name. The name Roxbury was given by a New York man who had lived in a town of the same name in his native state.[12]

It is to these first organizers that credit is due for the vigorous strides so early taken in establishing a public school system, the equal, if not the superior, of that which they had known in the eastern states. They were not afraid to vote taxes for improvements which were seen to be primarily needed for the comfort and advancement of the new community. It may be objected that these same institutions are also the work of foreigners; but when it is remembered that there were two main classes of foreigners who came at that time, that they were settled in communities by themselves, unable to read or understand English, yet necessarily subject to our laws, it is hard to conceive how by any chance the Norwegian or the German, or both of them, could have attended to the organization of a school system, the administration of justice, the recording and securing of land titles, and the transaction of many other duties which play a large rôle in the beginning, as well as in the later history of any commonwealth. Yet it seems that it was by mere chance that a sprinkling of intelligent Americans preceded the rush of Europeans to this state.

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[12] This is Mr. Jas. Steele, one of the oldest residents of the county, now living in the town of Dane. It is also of interest to note that Roxbury, New York, is in a district settled about a century ago by Massachusetts people who likewise had brought the town name with them.

Taking up the thread of our general narrative again, we remember that there were no railroads to the West, that the Erie canal furnished the great highway from New York and New England to the lake region and at the same time to the greater part of the Northwest Territory. It was up this canal and through the lakes to Milwaukee or Racine that nearly all of the eastern emigrants found their way to Wisconsin. The journey was long and tedious, often occupying two or three weeks' time; freight rates were so high that as a rule very little was brought besides a box of household goods and the family clothing. The foreign emigrants after landing at New York City came over this same route. The Indiana and Illinois people who desired to move to a newer country usually travelled with "prairie schooners," and took their farm stock and implements with them. No date can be set for the time the latter moved to Dane county. They began to arrive early and continued coming but formed no distinctive settlement of their own. From Ohio the emigrants came mostly by boat through the lakes, but a few by wagon. The Ohio settlers formed two distinct groups, one in the town of Dane, the other in the south part of the county near Wheeler Prairie.

A combination of circumstances resulted in the great influx of Germans. Political reactions had kept them uneasy in the Fatherland for some years, and beginning about 1830, there was a great emigration to America. By the time of the greatest movement of Germans to this country, i. e., 1844 to 1854, the greater part of desirable government land in Ohio, Indiana, and Illinois was gone, leaving the choice between Wisconsin, Iowa, and Missouri, and possibly Minnesota; but although these other states succeeded in enticing a few of the newcomers, Wisconsin was favored with the largest share.[13] As to Dane county, it was attractive in the main as a convenient and representative part of the state. But there was a quiet though powerful force at work in one corner of the county which resulted in a solid settlement of German Catholics.[14]

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[13] *Wis. Hist. Colls.*, XII., 8.

It remains to speak of the Norwegians, and this subject is treated at length by Prof. Rasmus Anderson in his "Norwegian Immigration." As here shown, the sixth colony of Norwegians in America, and the third one in Wisconsin was in Dane county, near Lake Koshkonong. The first Norwegian of this county settled in what is now the town of Albion in the spring of 1840. The preceding fall a small party of Norwegians from La Salle county, Illinois, had come to Dane county via Milwaukee, making the entire trip on foot; they located land in Christiana but went to a settlement on the Fox River to pass the winter. Some more Norwegians making the trip through the lakes to Chicago walked overland to Beloit in 1839, and in the spring came up Rock River in a boat and took land in Albion. From this time on there was a steady stream of Norwegians to Dane county.

Both the Norwegians and the Germans were almost entirely without resources when they reached Wisconsin. They frequently worked out by the day or month for pitifully small wages in order to get the first fifty dollars to pay for a forty. Very often the only house they had was a "dugout," made by digging a cave in the side of a bluff and covering it with brush and hay. Many of them were twenty or more miles from market, or from a doctor, and worse yet, had nothing to pay either for provisions or medicine; but credit and courage carried them through.

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[14] "Father Adelbert Inama came to Roxbury in 1845 and this determined the future nationality and religion of the town. He was a highly educated young German Catholic priest. After coming to America and living two years in New York, he pushed westward and at the above date, built a little log cabin in a secluded dell, back a few miles from the the Wisconsin. There was but one Catholic in the town at the time and he not a permanent settler; of Germans of any sort there were almost none. Father Inama, an enthusiast, and at the same time an able writer, set about the task of persuading his Catholic countrymen to emigrate westward. Entering a considerable amount of land for himself, he held it for his friends and let them have it for the original government price which it had cost him. The response was strong, for soon there had clustered about him the desired parishioners, both from other states and from the Fatherland. For a few years the Americans were in the majority, but no sooner had the foreigners obtained their naturalization papers than they out-voted the rest and to-day the town is as free from people of English extraction as Germany itself."—*History of Madison, Dane County and Surroundings*, p. 500.

## CHAPTER III.

### THE PURCHASE OF LAND FROM THE GOVERNMENT.

The land laws under which the land of Dane county was purchased from the federal government were comparatively simple. The system of credit had worked itself out into such a nuisance that after 1820 cash payments were required. The clamor of the poorer class of purchasers had resulted in a series of reductions in the minimum number of acres sold in a unit lot, until congress, on April 5, 1832, passed an act requiring the public domain, still unsurveyed, to be divided into forties, and after that each forty was sold separately. This was just in time to insure the division of Dane county into these smaller lots, as the survey of southern Wisconsin was then in progress, this county being finished in 1834.[15] There seems to be no particular order in the way land was put upon the market, except that it had to be surveyed. The land to be sold was "proclaimed" by the president not less than three months, or more than six months before coming into market, i. e., it was advertised in certain newspapers officially designated, and descriptions by number were given of each separate parcel offered. These proclamations were copied by western newspapers so that ample notice was given to all interested. It is worthy of note that in most cases the land offered for sale was scattered promiscuously about, so that it was difficult to buy more than a quarter or half section in one block. It would appear that this was a precaution against purchase by speculators of large tracts in a body, purchase that would give them the power to control and retard actual settlement to a greater degree than where their holdings were more or less interspersed with actual home-seekers; but there seems to be no available testimony on the subject. At all events, the entry-book shows numbers of whole sections side by side sold to one man in 1836, while, in later instances, equally large purchases are distributed over perhaps a quarter of a town.

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[15] Archives, office of secretary of state.

By act of congress June 23, 1834, that part of Wisconsin east and south of the Fox and Wisconsin Rivers was divided into two land districts. The division line between them passed through what is now Dane county, that part west of the line between ranges eight and nine being in the Wisconsin land district, and the portion east in the Green Bay district. The Green Bay district was cut in two by act of June 15, 1836, and the southern part was called the Milwaukee district. A few pieces of land in Dane county had been entered at Green Bay previously to this date, but with this exception the entries were made at Milwaukee and at Mineral Point.

The method of selling government land was the same as had been followed almost from the beginning of public land sales, although some very important modifications had been imposed by the buyers themselves. The land was offered at auction to the highest bidder, with the minimum price set at one dollar and a quarter.[16] It rarely happened, however, that the bids were above this minimum no matter how desirable the land or how numerous and keen the bidders. The buyers soon came to see that such an auction was an example of one-sided competition for as soon as the dollar and a quarter bid was made, no matter how little they had in common beyond the desire to buy at the cheapest figure, they managed to coöperate with great success for securing this result. That these organizations were wholly voluntary no one pretends. Neither can it be supposed that all the bidders present subscribed to the requirements for membership in the organization, but circumstantial evidence is abundant to show that the speculator rarely "volunteered" to over-bid the humble settler who came with perhaps fifty dollars to pay for a forty, although it would appear that any bid above the minimum would secure him the land. The commissioner of the general land office at Washington in a circular letter dated April 11, 1836, complains that receipts from sales of public land had been cut down by some millions of dollars by these "unlawful organizations" of buyers who prevent many from bidding.[17] It is further stated in the president's annual message of 1837 by way of emphasis of the same point, that the sales during the period from 1820 to 1837 had not averaged more than six cents per acre above the minimum price. The president also advised that the squatters be given the preference in preëmption privileges. This was really before a preëmption act of general application existed, although something analogous to this right had been given some squatters on the Symnes tract in Ohio in 1801.

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[16] There was no "double minimum" land in Dane county.

Mr. Donaldson in "The Public Domain" defines preëmption[18] as a "preference right" and states that, "The essential conditions of a preëmption are actual entry upon, residence in a dwelling, and improvement and cultivation of a tract of land;" again it is "a premium in favor of, and condition for making permanent settlement and a home." It would require many pages to give the separate acts under which the land of this county was preëmpted, but it seems sufficient to state that the more important were those of June 22, 1838; June 1, 1840; and September 4, 1841. The many changes made in those various acts were designed to fit varying needs, but any one of them covered substantially the conditions existing in Dane county. The importance of this legislation is well shown by Mr. Donaldson: "The preëmption system arose from the necessity of settlers, and through a series of more than fifty-seven years of experience in attempts to sell or otherwise dispose of the public lands. [He has reference to a time later than the one we are considering.] The early idea of sales for revenue was abandoned and a plan of disposition for homes was substituted. The preëmption system was the result of law, experience, executive orders, departmental rulings, and judicial construction . . . it has always contained, and to this day contains, the germ of actual settlement under which thousands of homes have been made and land made productive. . . . The necessity of protecting actual settlers on the public domain and giving a preference right to those actually desiring to make homes therein became more apparent in the years 1830 and 1840."[19]

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[17] Amer. St. Papers, *Public Lands*, VIII., p. 610.
[18] Donaldson, T., *Public Domain*, p. 214.

The act of September 4, 1841, was the most complete and specific of those that applied to Dane county. It provided that on any land already surveyed those who had, subsequently to June 1, 1840, settled, or who should in the future settle and improve a claim not exceeding one hundred sixty acres, could secure the claim by making an affidavit to the register of deeds, setting forth the time and nature of the settlement and improvements, and the intention to purchase the same within twelve months, at the regular minimum government price. Thirty days was allowed a settler in which to appear at the land office and file his preëmption papers. A fee of fifty cents was required for the filing of these claims.

### SQUATTERS' PROTECTIVE ASSOCIATION.

Wisconsin was never noted for lawlessness, and the outlaw type was not in the majority, at least not after the real settlement began. This was principally owing to the steady, earnest character of the people who had come from civilization and had brought it along with them. To a less degree the policy of the government in providing a judicial system fairly well organized, even before there was a demand for it from the settlers themselves, was, no doubt, a wise one for fostering good behavior.[20] But although the frontiersmen were by no means strangers to courts, and were peaceably inclined, it must not be supposed that they were so effeminately law-abiding as to stand by and let their interests suffer at the hands of land grabbers, or to await the sluggish stages of legal process to overtake and punish the offender. The one great instance in which the law was made and enforced, independently of judge or code, was in the protection of the squatter against the claim jumper.[21] Under the system then in use it was utterly impossible to offer the land for sale just as it was wanted, and no one who has any insight into frontier conditions can blame the frontiersman for taking possession of the land best suited to his purpose of making a home. After once settling down, building a house, clearing off the timber, or turning the sod, it is entirely contrary to the laws of humanity to allow the homestead to be usurped by some greedy interloper, whether or not the law is technically on his side. It is true the preëmption act was supposed to give the squatter all needed advantage, but it is just as true that money was likely to be as scarce and as hard to get hold of at the end of the first year as at the beginning. The officers of the law and those who had charge of selling the land had no authority to show further favors to the man in possession, though in most cases they seemed disposed to do so.

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[19] *Ibid.*, 215.

[20] Ebenezer Brigham was a justice of the peace for years before there were men enough in the county to form a justice's jury.

[21] The term "claim jumper" in Wisconsin does not mean a man who takes possession of a claim by using a gun, but a man who buys land upon which an actual settler has made his home.

It was at this juncture, when no help was to be had from others, that the Dane county pioneers showed themselves to be typical pioneers—thoroughly able to help themselves. The squatters were often sneered at and called out-casts by congressmen and others who had interests at stake.[22]

Agreements were made among the squatters, in fact among the great majority of the buyers on the occasion of public land sales, that no one should bid against another.[23] Speculators often had agents on the ground to snap up bargains for them, agents who were more or less discreet and did not endanger their personal welfare by any over-zealous efforts to buy land upon which the agents of the squatters advised them not to bid. An exact record of the conversations of these two sets of agents on some occasions would, no doubt, be a delicious morsel of history, but none can be found.

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[22] "The rights of the settlers upon public lands are universally respected. . . . It is chiefly by the labors of the settlers that the lands of the non-resident acquire value. . . . The character of these settlers is often very much misunderstood and often much misrepresented in many parts of the union. In Wisconsin they will compare with any of the farmers of the eastern states. Indeed, as a body they are men of whom any state might be proud. . . . Among them are those who hold seats in the legislature—those who have been reared in the colleges of the East—those who have been accustomed to all the elegances of society."—Wis. *Enquirer*, Mar. 16, 1839.

[23] "At a public meeting resolutions were adopted for the purpose of securing to actual settlers the possession of the lands squatted upon either before or after the government survey"—notice the last clause.—Milwaukee *Advertiser*, March 18, 1837.

There was no claim association in Dane county comparable to the "Johnson County Claim Association,"[24] of Iowa, but there were local associations—Squatters' Protective Societies—which, though lacking the elaborate machinery, were equally efficient in their workings and even more drastic in their measures. Nearly every town had its own loose organization and in practice these organizations coöperated without regard to town lines. The resolutions by which these bodies were governed were all about alike, probably copied in most instances one from another. The Sun Prairie draft is given as a sample:

"At a large and respectable meeting of the inhabitants of Sun Prairie, convened at the house of A. W. Dickenson, March 5, 1845, for the purpose of deliberating upon and making arrangements with regard to their situation as squatters:

'*Resolved,* That in case any person or persons shall purchase land in this vicinity at the time occupied by claimants; that they shall be disregarded as neighbors, and that no dealings of any kind be had with them. That we will neither lend to them, nor visit them, nor act with them in any capacity whatsoever, nor upon any occasion.

'*Resolved,* That we will protect each other in the claim of a quarter section, admitting it should embrace no more than forty acres of grove timber.

'*Resolved,* That in case any person or persons should violate the sense of this meeting and deprive claimants of their just expectations, that we will not fail to rebuke his conduct with such severity as has been common in the settlement of this western country.

'*Resolved,* That opportunity be given to persons who have entered claims to settle with the claimants, previous to the institution of any other measures.

'*Resolved,* That we pledge ourselves to be in readiness at the call of each other for the purpose of carrying the above resolution into full effect.

'*Resolved,* That two registers be appointed to keep a record of all lands claimed in the vicinity, who shall receive twelve and a half cents for every record made. Whereupon, Volney Moore and Russel T. Bentley were appointed registers.

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[24] *Claim Association of Johnson County, Iowa,* by B. F. Shambaugh.

'*Resolved,* That it be incumbent on every claimant, to enter his claim with one of the above registers, and that all such persons be recognized as members of this association.

'*Resolved,* That all persons desirous of this association, shall enter their names on the book of the register.

'*Resolved,* That the registers be authorized to call a meeting of the people when they shall deem it expedient.

'*Resolved,* That the proceedings of this meeting be signed by the Chairman and Secretary, and published in the Madison *Express.*"

WILLIAM LARABEE,
*Chairman.*

A. W. DICKENSON,
*Secretary.*[25]

Something of the spirit in which these protective associations were made and supported is shown in the case of Mrs. Eben Peck, who was one of the first women to settle in Madison. It was in such instances as this, that is where the buyer made his purchase and at once left the vicinity that he had some chance to "win out," though he must make speedy transactions if he hoped to sell to an "innocent purchaser" since the news of such enterprises travelled rapidly and few actual settlers cared to face the injured squatter and his neighbors.[26]

The usual mode of procedure in case a claim was bought by a "land pirate" was to visit the purchaser in case he were not too far distant, taking along a justice of the peace armed with a "warranty" deed ready for the offender's signature, which would constitute his conveyance of the land in question to the aggrieved squatter; the justice would then acknowledge the instrument. It was not unusual for the members of this committee to carry guns and ropes and to indulge in remarks calculated to stimulate the claim-jumper in his tendency toward a speedy and amicable settlement. Very rarely did he resist rigorously, but once in a while it required heroic measures to overbalance his greed. The story is told of one "jumper" who resisted, and addressed the committee in irreverent terms, daring them to do him physical injury and threatening to bring the strong arm of the law down violently upon their heads. The committee exhausted their verbal arguments in vain, then putting a rope around the waist of the culprit, led him to a pond, cut a hole in the ice, and immersed him. He was soon drawn out, but being still in a combative and profane frame of mind, was treated to another ducking and on his second coming out was unable to continue his side of the debate, so the negative was declared closed, and after returning to the house the dripping defender of that side set his signature to the papers and with uplifted right hand swore that it was his "voluntary act and deed."[27] The squatter usually agreed to refund the money advanced by the "jumper," but custom allowed him to take his time to it and no interest was paid.[28]

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[25] Madison *Express*, March 20, 1845.

[26] "Mrs. E. Peck, now residing at Baraboo, Sauk county, made a claim upon an eighty acre tract, by breaking up some forty acres and making other improvements and was laying up the money as fast as she possibly could for entering it, when she found her anticipations blasted by learning that a fiend in human shape, by the name of Chancy Brown, had entered the tract knowing full well at the time that he was robbing a poor widow woman and her children of their just right. We would caution all persons about purchasing the E ½ of SE ¼ 36, 12, 6, as the citizens of that vicinity will never suffer any person to take and keep possession of said tract of land to the injury of Mrs. Peck. We understand that Mr. Brown resides at Whitewater, Walworth county, Wisconsin."—Madison *Express*, July 29, 1847.

Thus in true western style the Wisconsin farmers enforced their own laws and fought their own battles. The justice who presided at their trials and rendered their decisions may have been lacking in knowledge of law, but he understood the men and the times which he represented. He tried to do the right as he saw it; he lived up to all the light he had, and having satisfied his contemporaries, history can not call him to account for his methods or convict him for results obtained.

It can readily be seen from the foregoing that the amount of land sold and the amount actually settled during a given period bear no definite relation one to the other, even when the amount bought by speculators is known and considered.[29] However, it is of some consequence to note the sales before and after the crash of 1837. The following table is for the state of Wisconsin as it appears in the records of the land office:[30]

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[27] This is partly told in the *History of Dane County*, but I learned it from an old lady who lived near the scene, and was acquainted with the circumstances.

[28] Letter from Mr. Robert Steele.

[29] The preëmption laws of the few years preceding 1841 had much the same effect, though not so marked as that of 1841.

[30] *Senate Docs.*, 26th Cong., 2d Session, Vol. III., No. 61.

| Year. | Number of acres sold. | Amount received for same. |
|---|---|---|
| 1836 | 646,133 | $808,932 |
| 1837 | 178,783 | 223,479 |
| 1838 | 87,256 | 109,416 |
| 1839 | 650,722 | 819,909 |

It is seen from this record of sales that the amount of land purchased in 1839 was practically the same as in 1836, but a comparison of the population of the state at these dates gives some idea of the character of the sales. The business failures of 1837 evidently did not result in an immediate exodus to the West as the year 1838 shows but little more than an eighth of the land sales of 1836. By 1839 the sales had passed all former records. This is only reasonable as it takes time to overcome the reluctance to move, to adjust old accounts, or even to make arrangements for leaving them unadjusted. A reporter in speaking of the stir of home seekers in mid-winter 1839 says, "The public sales commenced in this town on Monday last, and during the week have averaged from twenty to thirty thousand dollars per day. There has been no competition in the purchase, the settlers adjusting their disputes by arbitration, the capitalists finding it more to their interest to lend money than to bid for the lands. We believe no lands have yet been bought upon speculation, and that consequently, a great portion of the best lands in the district will still be open for the emigrant the present summer."[31] We have, then, a statement of an economic cause for the partial cessation of land speculation in the fabulous rate of interest reached during this early period.[32]

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[31] Milwaukee *Advertiser*, February 23, 1839.

[32] Speculation had, however, been a serious question: "The extent to which speculators have taken up the new lands in the western county is almost beyond belief . . . speculators have visited every part of the country where lands were in the market . . . and taken up vacant lands wherever they are to be found."

"The circular of the secretary of the treasury requiring the public lands to be paid for in specie has had some effect in checking the movements of the speculators, many of whom have found it a serious impediment to their views, and are consequently unmeasured in their expressions of indignation . . . the emigration to this country would have been greater than even it is now had it not been for the speculators, who take up all the good lands as early

That land speculation had a bad effect on agriculture needs very little proof, as the holding of raw land in large quantities may be said to be *per se* a drag on enterprise. Perhaps it is not a monopoly, as Mr. Lapham calls it,[33] but nevertheless, it has many of the attendant evils of a monopoly. Greedy as were the statesmen and other wealthy men who invested their money in western land during the palmy days of 1836, the very fact that they were unable to form anything approaching a monopoly in land rendered them almost as helpless as their unfortunate friends whose capital went down in mercantile disasters of the older states. As noted elsewhere, it is impossible to tell from the records much about the sums realized by these large holders when they finally parted with their land. The greater share of it was held by firms of several members and the number of quit-claim deeds with "consideration one dollar" fill many pages of the register's books. Nor is this all the difficulty: the most of these firms owned land in different counties and even different states, and very frequently transfers were made of one-fourth, or one-tenth, or even one-nineteenth of these widely scattered acres, and exchanges of various kinds of property for land again complicate matters hopelessly. Occasionally where the sale was made directly to a bona fide purchaser previously to about 1850, the price was little more than the original figure—one and a quarter dollars.[34]

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as they come into the market, and hold them at a higher price than the emigrant is willing to pay. In consequence of this, numbers of the new settlers pass beyond the boundary of lands in the market and become squatters."—Belmont *Gazette*, Nov. 2, 1836.

"The rage for speculation in wild lands is a great impediment to agriculture. Men come to this country to make money by *speculating*, not by pursuing a course of tilling the fertile soil, of which they become the temporary proprietors, and which soon passes into the hands of others who are disposed to sell out at an advance. Hence the low state of the agricultural art everywhere to be seen in this state [Michigan] and until all the public lands are sold we despair of seeing even a beginning to a regular system of cultivation."—Dubuque *Visitor*, Nov. 9, 1836.

[33] Lapham's *Wisconsin*, p. 220.

[34] "Lands have been entered in this country at one dollar and twenty-five cents per acre, and after paying taxes on them for years their owners have sold them for one dollar per acre to avoid further taxation. Show us a non-resident who has made much money speculating in western land, and we will show you a rare bird, more rare by far than a successful gold hunter. . . . Large investments in land always defeat their own object. . . . We need no national reform to punish speculators. . . . The only way in which anything can be made by buying western lands is, to locate in small tracts remote from each

Whether the allegation that the settlers imposed undue taxes on the non-resident landowner is true or false, it is clear that they had no legal right to do so; yet it may well have happened that unimproved land was listed by assessors as high as improved land, and the non-resident in that case would pay a rate somewhat above the average.

The assessors and members of the boards of equalization were themselves residents, and it is safe to infer that they taxed the non-resident, while the latter was viewed as a speculator, as much as the law and public sentiment would allow.[35]

The only possible means by which a speculator could dispose of any quantity of his land until about 1850, when desirable government land began to be scarce, was to offer some inducement to the purchaser better than a cash sale at a dollar and a quarter, and this was attempted in many ways other than actually cutting the price. The most usual inducement was an offer to sell on time which to the numberless home seekers without means was a strong point, but not a conclusive one while the opportunity to "squat" on vacant land remained. Another expedient of the poor speculator was to make some sort of improvement to tempt the prospective purchaser; a house of some sort was put up, or a few acres of breaking was done. The latter improvement was of particular consequence to those arriving in the spring with barely time for planting corn and potatoes, or sowing a little buckwheat. But breaking new land was a big bill of expense at best and a man with his money invested in unsalable land could hardly affort to put much more into improvements.[36] Sometimes the large land-holder resorted to the auction as a means of making sales. In 1839 one Nicholas[37] of Baltimore advertised many hundred acres to be sold in this manner at Madison on June 4, 1840, but there seems to be no record that

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other so as not to interfere in the general settlement, and even then the settlers skin the speculator out of his profits by taxation."—Madison *Argus*, October 22, 1850.

[35] These inferences are drawn from actual facts which the writer has known personally in O'Brien county, Iowa, where unimproved land was listed at the same rate as the rest, and no attention paid to complaints.

[36] This scattering testimony is from conversations with old settlers, and although it is not as specific as one could wish, the fact that speculators in the early days of Wisconsin suffered more from their cupidity than they caused others to suffer seems fairly well established.

[37] *Wisconsin Enquirer*, November 2, 1839.

the sale took place, and this in itself is evidence that such speculation at that time was not an enviable business, for there was no chance that the land could be sold for anything above cost before the date set for the sale.

Congress was not quite oblivious to the evils of land speculation and on January 8, 1841, a bill was introduced in the senate to limit the sales to 320 acres at one dollar and twenty-five cents per acre, the purchaser at the time to be worth not exceeding one thousand dollars.[38] It probably was not intended that this bill should get very far. The limitation as to size of purchase was reasonable enough, but it is hard to see how the second stipulation could be enforced. Again in 1848 the senate made a like feint at limitation of the size of purchases, one hundred sixty acres being the proposed maximum. Whether these measures were in jest or in earnest, there was no limit set until the question had ceased to be a vital one in southern Wisconsin.

Another means of getting hold of land was the military land warrant, and many such warrants were used. They began to appear in great numbers about the year 1848, that is, at the close of the Mexican war. From that time till the land was all taken this scrip played a large rôle in acquiring patents. The men fortunate enough to hold the warrants were at a decided advantage over the average buyer. They were good for eighty acres, but until 1851, were not transferable. Here was a serious proposition, and owing to pressure from the holders of warrants who were not desirous of taking the land for themselves, and much importunity on the part of anxious buyers, congress on December 11, 1851, voted that warrants should thereafter be assignable. Much complaint was manifested in the West over this action, as it was believed to be a move toward speculation instead of away from it, such as congress had at times pretended to favor.[39] Soon after this act, land warrants for eighty-acre entries in Wisconsin were quoted in New York along with stocks and bonds, and as land was at this time beginning to rise perceptibly in value, the warrants often sold for two hundred, or two hundred fifty dollars.

It remains to speak of one other method of gaining possession of land, viz.:—buying it of the state. As in older western states section sixteen of every township was school land.[40] Wisconsin received the half-million-acre grant of land given to new states for internal improvement by act of congress, September 4, 1841, some of which was located in Dane county. The act was modified May 29, 1848, and such land as remained unsold in this tract was added to the school land; there was also some land within the county belonging to the state university and a considerable amount of swamp land which was given to the state in 1851.[41] Under this grant, the object of which was to forward the drainage of swamps, the building of levees, roads through swamps, and the like, the state of Wisconsin claimed over four million acres and actually received more than three-fourths of that amount. The Swamp Act provided for an indemnity grant in case the swamps had been sold as arable land before the transfer was made to the state. The surveyors had listed each separate forty as *arable* or *swamp*, and it was on this basis that Wisconsin made her claim. As a matter of fact, much of the land listed as swamp was desirable, even more so than the average, and many pieces were taken by the earliest settlers.[42] Thus under the indemnity proviso the state claimed a much larger amount of land than the swamp remaining unsold. It was several years before the legislature undertook the necessary work of locating these scattered fragments and as a result there is a very great deal of land on the list of "State Swamp Lands" which is among the driest of the state.[43] Provision was made for cash indemnity in case lands were not available and this has led to long and tedious bickerings which are not entirely settled yet. Altogether the state owned 30,800 acres of land in Dane county, 16,480 acres of which was nominally swamp, the balance being school and university land.

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[38] *Senate Documents*, 2d Session, 26th Congress, Vol. II.

[39] Madison *Express*, January 1, 1852.

The swamp land was sold at a dollar and a quarter per acre, some of it not being taken until 1896. The school land was appraised in 1850 at prices varying from ten cents to ten dollars per acre and was at once put upon the market.[44] The money received for this land was to constitute a permanent fund, hence it was even more desirable to leave it in the form of good security than to have it paid in cash. This being the case, the sales were made on remarkably easy terms, one-tenth down and the balance on thirty years' time at seven per cent. interest. By this means many a poor man was enabled to get a firm grip on a farm, and in not a few instances these lands are still in the hands of the original purchasers. The other state land was sold on twenty years' time at ten per cent. interest, and even this was a desirable bargain owing to the low price per acre.

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[40] In states organized later than 1848, the 36th section was also school land.

[41] Act of congress, September 28, 1851.

[42] This is partly explained by the fear of the early settlers that water could not be had on the upland, but the surveyors were evidently careless in their classification.

[43] Indemnity land could be had wherever there was government land remaining at one dollar twenty-five cents per acre.

With the above facts before us it is easy to comprehend the force of the remarks already made as to the difficulty in making a fortune in holding land for a rise; there were too many alternatives open to the buyer, and with all his hardships he was seldom at the mercy of the land shark until after the last of the desirable public land had become private property. It was during the early '50's that the greater part of the state land was sold and it was also at this time that the first considerable rise in the price of land occurred. Had the state during its early history adopted the policy of selling land for what it would bring, there would be a different story to tell in the matter of state finance, but they followed persistently the first determination to offer land at as low a price as possible and in this way encourage immigration, blindly trusting to the generosity of the tax payers to provide all necessary funds for future needs. This as a policy is as unfair as it is inexpedient. It is unfair because only a limited number of settlers can profit by the low prices; it is inexpedient because, as seen in the sequel, the men who get land for a tenth of its real value are not willing to give as freely as they have received when contributions are asked for public expenditures.

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[44] Wisconsin *Assembly Journal*, 1850.

## CHAPTER IV.

### SELECTION OF LAND.

Whether or not the first settlers choose the best land is a question which has long been in dispute, and unless other localities can furnish more conclusive evidence than is found in the history of Dane county the question is likely to remain without a definite answer. However, there are some fairly clear lessons to be learned in the varying choice of land by different classes of people at the same time, and the changes in this respect from one time to another. Without doubt the early farmers were "economic men" to the extent that they intended to take, other things being equal, the most productive land available; but it must not be forgotten that production meant to them, just as it does to an economist, the return for outlay; or it may not be overstating the case to say they were looking for the greatest net gain. This net gain is by no means a simple homogeneous quantity, and moreover, it must be reckoned for a term of years. The farming class is usually credited with only moderate long-sightedness, and in the case of the pioneers they may well be forgiven if they were more concerned for the welfare of their immediate families than for remote posterity. They took the land that promised in their judgment, the greatest reward within the near future; but in the matter of judgment there was a great lack of uniformity.

In the first place the land near the capital was taken with little regard to quality, and in the main this was a wise move, though not to the extent that might be supposed. Outside of the city limits the farms of the town of Madison will not average as high in price at the present time as those of several other towns which lie at the maximum distance from a market. Contrary to some of the histories of Dane county the first entries were not those made by the speculators in 1836 with a view to owning corner lots in the law-making city. From the entry-book it is seen that a small quantity of land was sold in 1835. A Mr. Rowan entered thirty-five acres on the east side of Lake Monona and settled upon it, and several sections were bought the same year by speculators. In 1836 the land around the Four Lakes was taken, each buyer hoping the capital would be located in his neighborhood, or at any rate that a popular summer resort would grow up on the lake shore, and thus contribute to his prosperity. A few hundred acres along the Wisconsin River were taken by men, who in their mental vision, saw a great commercial center near where Prairie du Sac now stands. Mr. Brigham and others took land near Blue Mounds in hopes of fortunes from digging lead. Thus nothing can be predicated as to the sort of land chosen by the real tiller of the soil until such purchasers began to arrive in 1839 or '40, and little can be known of the motives governing selection after 1854 because the unoccupied land was by that time very scarce.

The difficulties in the way of definite results in this chapter can hardly be exaggerated. In the first place the geological maps are not scrupulously accurate and it cannot always be determined from them whether a particular piece of land is hilly or level, prairie or woods. In the next place there was often a variety of considerations that resulted in a particular selection; perhaps it was a choice between having neighbors or being isolated; perhaps a choice between congenial neighbors and those with whom even conversation was almost impossible. Nearness to a highway, to a river thought to be navigable, even to places where it seemed game would be abundant, turned the scale against odds which would now seem of greater weight; but oftener than either or all of these, the question of securing a convenient supply of wood and water was the controlling influence. Again the settlers "squatted" on the claims until they were compelled to enter them, that is until the land came into the market, and thus the time of entry may or may not show the order in which different claims were taken.

There were innumerable springs in the hilly districts and small streams were numerous.[45] It was possible to do without flour until wheat could be grown; in many cases a house could be dispensed with for some months; but in no case could the use of water be foregone while a well was being sunk, and although it may seem that hauling fire-wood a few miles is a matter of no great consequence, the man who knew the West only through the medium of exaggerated reports telling of awful storms and cold, hardly dared risk living more than a stone's throw from fuel.[46] However, there are some few facts among all this tangled mass which speak out distinctly. That the settlers were almost without exception discriminating in their choice of land is seen by the shape of the farms taken. In the great prairie region where one quarter-section is about like another, the buyer or homesteader almost invariably prefers a farm in as compact shape as possible; but on the patchwork surface of Dane county there was much difference in forties falling within one general class, and as a result the farms present every possible combination of forty acre lots. Often a hundred sixty acres was made up by a row of forties across the section, or not infrequently they cornered only, and occasionally one man would own land entirely surrounding some forty or eighty which was rejected on account of being too swampy or too hilly. The first settlers having once made these selections, the later arrivals were compelled to make purchases equally irregular in contour. Some of these inconvenient farms have since been made more compact by exchanges, but irregularity is still the rule.[47]

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[45] A large share of these are dry of late.

Of the swamp land approximately half was taken by choice before the act of 1851 gave it to the state, and after that date it sold about as readily as other land until only a small quantity remained.[48] This was owing to the scantiness of hay to be had on the drier land, also, shallow wells could be made in this low ground affording water for stock or even for house use.

The most interesting and at the same time the hardest questions to answer, are those relating to the choice between prairie and wooded land. In the first place there were so many little groves scattered about the prairies, and so much open land distributed through the woods that a great many settlers were enabled to choose both woods and prairie, or other open land, and have the advantages of wood and water without the disadvantages incident to a farm composed wholly of either woodland or prairie. No doubt this was the wisest choice possible, and as nearly as may be learned from the old settlers, such a choice was made mainly by the New England, New York, and English people, while the Germans, Norwegians, and Irish preferred the woods.

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[46] One German when advised to take land out in the open remarked that he expected to carry all the family fire-wood on his back for some years to come and a few rods was far enough.

[47] What has here been said does not apply so much to the prairies.

[48] In eleven towns taken at random, fifty-three per cent. of the swamp land was sold prior to 1851.

It will be remembered that a considerable part of the oak land of Dane county consisted of "openings" and the choicest of this was, indeed, desirable land; it was easily plowed, and especially while winter wheat was the main dependence, yielded the best returns; plenty of wood was found upon it, and yet the matter of grubbing out stumps was not formidable. Hence those who much preferred prairie to solid timber land still might take the "openings" in preference to either.

The Germans and Norwegians were not at all averse to hilly land, perhaps because they were accustomed to hills at home.[49] The foreigners were almost without exception afraid of wind storms and for this reason avoided the open. The first three Norwegians to enter claims in the county chose them in the oak land near the northeast corner of the town of Albion. However, the Norwegians were keen in the choice of land as in other things; they soon learned to take the oak openings in preference to the more thickly wooded land, while many of them settled on the border of the prairie.[50] It was the Ohio farmer who feared the prairies least; he had seen something of them before and had learned by experience the comparative ease of subduing such soil in contrast to the slow and laborious task of ridding the land of brush and stumps. "Wheeler prairie" and "Stoner prairie" were named in honor of the first settlers, both from Ohio; and "Tobacco prairie" in Rock county was also settled by Ohio farmers. In the north part of Dane county is "Dane prairie" much the largest prairie within the county, covering an area equal in size to three towns, and along the west edge of this we find the "Ohio settlement."

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[49] *History of Dane County*, p. 562, article by H. A. Tenney.

[50] From statements made by Professor J. Q. Emery of Albion, Wis., who has been familiar with the Norwegians of Dane county almost from the first.

It is in the settlement of this prairie, if at all, that general preferences can be traced. The records of land sales throw very little light on the subject, the reasons for which are already enumerated. It is therefore necessary to rely on other data, which fortunately are abundant and conclusive. Here as elswhere the woods were taken first, it being nearly all occupied before any considerable part of the prairie was settled.[51] One emigrant who had traversed the length of the prairie—perhaps twenty miles—with his ox team, was asked if he thought the dreary waste would ever be inhabited, and answered; "Yes, but not in your day or mine," yet the good man lived to see farms on the prairie selling for seventy-five dollars per acre, while the wood farms were worth not over one-half or two-thirds that amount. The last and strongest objection to living on the prairie was the difficulty of digging a well. This was before the time of drilling wells, and the farmers, with only powder and pick found it almost impossible to go any distance into the solid magnesian limestone with which this tract is underlaid, yet there was little if any water above it. The demand for more wheat land made a marked advance in the early '50's. The price of wheat, taking a boom at this time, overcame nearly all the prejudice to any land that could possibly produce that cereal. During the winter of 1853–4 many attempts were made to dig wells on the prairie, some of them being sunk to a depth of seventy-five or eighty feet; but no water of any consequence was found. At the same time wheat had reached the remarkable price of two dollars a bushel, and nothing further was needed to bring a general rush of wheat growers to the prairie; even the question of drinking-water was of secondary importance, and in not a few cases all the water used was hauled from Lodi, a distance of five miles or more. It was the restless Yankee who left his little cabin and clearing to begin again on the inhospitable prairie. These "Yankees" were either directly from New England or were those already initiated to pioneer life in western New York or Ohio. The German was the last to leave the shelter of the woods, as is seen by the solid German settlement of Roxbury and the west part of Dane, one of the most thickly wooded districts of the county. It is true that the Germans have long since learned to appreciate the prairie, but it was after the first and hardest problems had been solved. As to the English and Scotch it may be said that they, like the Norwegians, were rapidly Americanized and were soon awake to the advantages of open land. But for staying qualities the German and the Norwegian take front rank. Without any exception they have done better than merely to hold their own in every locality where they have settled, while the Yankees, English, and Scotch have been carried on to become pioneers again, or have quit farming altogether and moved to the city.

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[51] The account of the settlement of Dane prairie is taken from statements of old settlers, principally by Messrs. Chas. Loper, Robert Steele, Jas. Steele and Amos Chase, all of whom have lived on or near Dane prairie for half a century or more.

Let us not be misunderstood. There was no class of settlers who at first preferred the bleak prairie; very little of the prairie other than mere fringes was taken till late in the '40's.[52] Sticking so closely to the woods was a corollary to the proposition that wheat was the only crop to be raised. Wheat did yield better on the stiff clays of the woods than in the more friable soils of the openings and prairies, and it was the general belief that clover and timothy, which began to relieve the monotony of wheat growing, would also succeed better on the same kind of soil.[53] A traveller, in 1842, gives a glimpse of pioneer life, and incidentally adds a little testimony to the statement that New Englanders were among the first who settled the prairie.[54] The problems to be solved by the farmer who took prairie land,[55] were in some ways more perplexing than those of making farms in the woods, and some of these were of a nature not likely to suggest themselves to one wholly unacquainted with the work of subduing raw prairie. The woodland could be plowed at any time of year when the weather permitted, and the settler could utilize all his spare moments in clearing and breaking for the next season's sowing. But not so with the prairie. Even if he should succeed, by an almost infinite expenditure of strength, in breaking the sod late in the summer, he could reap little except disappointment the following year. Again if he was too anxious, and did the breaking very early in the spring, the results were only less unsatisfactory. The mistake of breaking too deep was also a common one. To get good results prairie should be turned in thin furrows during the early summer and left to rot without the interference of a "sod crop" for the remainder of the season. All this seems simple to the western-bred farmer, but was a hopeless series of conundrums to those meeting these conditions anew. Fortunate indeed was the man who felt the need of information and experience.[56]

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[52] The causes for this, both true and imaginary, are set forth in contemporaneous writings: "Some of them [i. e., roads] lead through extensive prairies where timber is scarce, but we apprehend that even these large prairies will be found more available than many suppose. . . . As we were crossing one of these prairies a short time since we found a man in the midst of it, quite out of sight of land, as we say, building a fence and going ahead with a farm. He got the rails ready split, four miles distant, at ten dollars per thousand."—Madison *Argus*, July 28, 1846.

[53] Pat. Office Rept., *Agriculture*, 1852-53, Part II, p. 152.

[54] "Dined at the house of a thriving New Englander, who from small beginnings, is now the proprietor of five thousand acres of prairie land; he has enclosed several fields of Indian corn with ditches instead of rails—answering the double purpose of staying the prairie fire and keeping off cattle; he had sunk a well and built a stable, barn, and hogpen, on a large scale, and like a wise man had lived up to this time in a simple log-and-mud cabin. I am really at a loss to know how the good people of this country—this out-of-the-way place—find all the good things they set before travellers, especially the New Englanders."—*Life in the West*, p. 260.

[55] "The prairies are of two kinds, the dry and the wet. The dry is arable land. The wet prairies are called sloughs or bottom land; they are not considered

One of the most pitiful pleas in favor of woodland over prairie appeared in an agricultural paper in 1851, just about the end of the period when there was actually free choice between the two. The matter of health is very often mentioned as a reason for taking one or the other kind of land. Another writer tried to get at the matter statistically and found that among twenty-seven families who moved to the prairie, there was a certain number of deaths, while among a like number of dwellers in the woods for the same period of time, the number of deaths was not so large. There are no data on this question on which to base conclusions, but it is generally agreed that fever and ague, the great bane of pioneer life, flourishes best in a damp country where a great amount of vegetable matter is undergoing decomposition.

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fit for tillage [and are] valued only as a resort for cutting hay, or as a range for cattle. All land of this character [i. e., both the wet and dry prairie] is generally avoided in the selection or purchase of land."—Madison *Express*, April 16, 1846.

[56] "When I commenced making a farm on the prairie I found myself engaged in a task by no means without its difficulties and perplexities. Whatever I had learned of farming in the East had to be principally learned over again here—I looked in vain for well tested and enlightened experiments—what was the best season of the year in which to break prairie; how deep should it be broken?"—Madison *Express*, May 19, 1841.

Be this as it may, the prairies of Wisconsin have long been exonerated from the charge of unhealthfulness; and the modest woods of this section of the state can hardly be termed dark or damp forests. Nevertheless the great amount of surface water, often stagnant, was the cause of much sickness in the early days of Wisconsin settlement.[57]

If it appears that the foregoing is a vague treatment of the manner and motives of land selection it can be answered only by recurring, at the risk of tedious reiteration, to the endless reasons, and almost lack of reason, which attend the selection of different land by different people; and in addition, that the writer had no thesis to maintain or theory to prove. In answer to the question "Did the first settlers take the best land?" no sweeping answer can be given. The greatest mistake was no doubt in rejecting the prairies so long; quick returns—and this was of vital importance in most cases—were more easily had here, where a little skill in the use of the breaking plow enabled a man to turn virgin soil into cultivated fields at the rate of two or three acres a day, while in the woods not a quarter of the same results could be had. The patience and toil of those who cleared up the woodland was eventually rewarded, and where this land is not too hilly or stony, it has proved to be excellent in wearing qualities, though on an average it must still rank below the prairies, as the latter have always excelled in the production of Indian corn. Many of the old pioneers who still remain look with chagrin from their rough farms, worth fifty dollars per acre, to the smooth, inviting fields of their prairie neighbors, worth fifty per cent. more, and recall the time when they rejected the latter in favor of the former. Yet no doubt they were temporarily better off making the choice they did than had they undertaken the greater task with the possibility of greater gain in the long run, and "for many of them there was no long run." They took the land they thought was best, and for a period it was. On an average the land which was best ultimately was not taken first, but this was due largely to the particular class of settlers who took it.[58]

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[57] "It is true the prairie mania has ever prevailed among the eastern farmers coming to settle amid the West. This is the result of a fancied convenience among new settlers and a wish to gratify that thirst for novelty which is inherent in the minds of those who have been reared among the hills and valleys of the New England and Middle states, where nature in her prairie beauty has never appeared. But that prepossession in favor of prairie farms is rapidly yielding to the formation of a more rational conclusion. The absence of many of the common conveniences of life which are enjoyed in the timber—the want of health and the failure of crops from year to year are obstacles in the path of prosperity which exist upon the prairie and which can never be wholly surmounted. These will henceforth prove a barrier to their settlement, and will have a tendency to direct emigration to a forest home. The angry winter wind which sweeps over their heads in its course for hundreds of miles, unbroken by any obstacle, save the slight undulations upon the bosom of the prairie, where neither tree nor shrub appears to shelter the weary traveller from the keenness of the blast which often threatens him with immediate destruction,—the scorching rays of the summer sun maddening and destroying the brain, and other manifestations in nature, all speak to the settler, in language not to be misunderstood, of disease and death in its most horrible form. There disease in every form destructive to vegetable life is stalking abroad and ever and anon lays its withering grasp upon the fruits of the foil of the laboring man and deprives families and neighborhoods of the means of subsistence, leaving poverty and destitution to prey upon its victims, until another year shall have rolled its sluggish course, bringing but too often in its train the same fearful consequences. This is not an overwrought picture."—*Wisconsin Farmer,* III, 145.

Preference for woodland lingered till long after wheat ceased to be the principal crop: "Upon the whole it is our opinion that, everything considered, the oak openings are the best lands for a farmer of moderate means. These lands seem to be less rich in the vegetable producing elements than the other two [timber and prairies] but such is not the fact as demonstrated by experience. The soil of the oak openings is of a lighter color, but it produces the finest crops of cereals, including corn and also esculent roots. It plows very kindly, is never miry like the prairie, where the reapers have sometimes become useless in wet seasons because they could not be worked in deep mud. The openings produce as much to the acre, and of a plumper, heavier grain; manure works a more permanent benefit; they raise heavier crops of clover and other grasses and the use of plaster is attended with wonderful effect, frequently doubling the crop of hay; orchards thrive better; they supply fuel and fencing material; also stones for cellars, wells, and handsome imperishable fences.

"All these advantages mentioned in connection with oak openings also belong to the timbered section and the latter have the further advantage that, once cleared, they do not, like the openings, send forth a crop of useless and tangled grubs which are very expensive to eradicate." Thus prairie is the poorest land.—*Trans. State Agr'l Soc.,* IX, 405.

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[58] Since writing the above, I have received a letter from Mr. Robert Steele of Lodi, Wis., which corroborates almost all the statements made in the chapter respecting the choice of land by the different settlers. He adds that the Germans of the northwest part of the county, who were mostly from the Rhine country, hoped to raise grapes on the sunny hillsides of Roxbury. Some of them did so, and made several thousand gallons of wine per year for a brief period. Mr. Steele thinks, however, contrary to one of the quotations above, that there was a general tendency for immigrants to choose land resembling that of their former homes, an example of which is the location of the Swiss in the hilly country to the southwest of Dane county.

## CHAPTER V.

## DIFFICULTIES OF EARLY FARMING.

The struggles and hardships coincident with pioneer life are familiar topics, yet each new country has its own peculiar difficulties. In Dane county the first formidable drawbacks were those of markets and prices. Even the most ingenious and economical pioneer had to depend to a considerable extend on eastern supplies. Flour and pork were the standard articles of food, and as they had to be brought up the Mississippi river or from New York or Ohio, the prices were exorbitant. The first demand for any considerable amount of provisions in southern Wisconsin was for supplying the needs of the lead miners, and they paid dearly for their living; one man speaks of giving four thousand pounds of mineral for a barrel of flour.[59]

In the spring of 1837 a party of land prospectors paid to Mrs. Masters of Jefferson one dollar per peck for oats; at the same time pork was reported to be worth twenty-one dollars per barrel, and flour forty-one dollars; a cow was worth forty dollars, and a yoke of oxen one hundred fifty dollars.[60]

In Milwaukee, corn was quoted at two and a half dollars per bushel, eggs as high as one and a half dollars a dozen, and butter at forty-five and fifty cents per pound.[61] This certainly was a rare chance for a limited number of farmers to grow rich rapidly; but few farmers were here at all and they for the most part were slow in getting any produce on the market. Such lines as the following must, however, have had a stimulating effect on all who were getting their farming operations under way: "Hundreds of barrels of pork are annually imported from below on account of a lack of farmers to supply the great demand for this article from the mines."[62]

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[59] *Wis. Hist. Coll.*, II, 335.

[60] *Ibid.*, X, 425.

[61] Milwaukee *Advertiser*, February 25, 1837.

Some idea of the manner of making a home in the wilderness may be gathered from the reminiscences of an old Rock county pioneer: "During the summer of '37 I made a claim on the bank of the Rock river three miles above Jefferson. In December following I took an ax, a ham of pork, and a blanket, walked down to Jefferson, bought a few loaves of bread of E. G. Darling, also borrowed a boat of him—went up to my claim to make the necessary improvements to hold it until spring.

"I worked upon my claim for four weeks, chopping trees, building fences, etc. Having made the necessary improvements on my claim, I went back to Rock river to work until spring. During the winter I picked enough cat-tails to make me a bed. Also caught and salted a keg of fish, bought a yoke of oxen and prepared to go onto my claim in the spring. In April, '38, I borrowed the hind wheels of a wagon, put in a temporary tongue and box, loaded up my shanty outfit, drove to Ft. Atkinson and crossed the river on the ferry, thence to Jefferson; again ferried across, cut my own road through the timber, three miles, and reached my claim. The next day I took the wagon on the boat borrowed of Mr. Darling and returned it to Bark river running the distance of twenty miles, and returned to my farm the next day ready for farming. I cleared about two acres, made a harrow with wooden teeth, and planted the land with corn and potatoes. I paid four dollars a bushel for seed corn to plant. The corn not coming up the first time, I replanted June 3, paying sixpence an ear for the seed. Raised a splendid crop of corn and potatoes. The nearest grist mill was at Beloit and several Jefferson people carried their corn there to grind. One of my neighbors, Mr. Britton, dug a hole in an oak stump for a mortar and pounded his corn to supply a large family. Having raised something to live on and having built comfortable houses to live in, we all turned our attention to building roads through the timber. A territorial road was opened from Milwaukee to Madison by the United States Government in 1838 and '39—at this time I went to Milwaukee for a load of provisions. It cost two dollars per hundred weight to haul goods from Milwaukee to Bark River Mill."[63]

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[62] *Wisconsin Enquirer*, November 2, 1839.

A still earlier settler relates experiences much the same.[64]

A writer in the Watertown Republic of July 3d, 1889, speaks of making a sled by hand at Milwaukee, paying sixty dollars for three barrels of flour, eighty dollars for two barrels of pork, and with two yoke of oxen as the team starting westward for Watertown. Many instances are recorded of five dollars a barrel being paid for hauling flour from Milwaukee to Madison and it is little wonder when two yoke of cattle were required for moving ten or twelve hundred weight of goods. Before the road above mentioned was laid out each teamster went where he pleased and he usually tried a new route "knowing that a change must necessarily be an improvement."

The newcomers were almost uniformly without capital in any form beyond a team of oxen, a wagon, and a few household articles. Many a determined home-seeker, discouraged by business failure or low wages in the east came to Wisconsin with barely enough money to pay his passage, and after selecting a farm and filing preëmption papers, or quite as often, engaging some friendly neighbor to use his influence in preventing its being "jumped," started for the pineries and hired out as a chopper thus earning enough to pay for a forty or two. These experiences were not wholly uneventful. One Vermont youth after walking a considerable share of the distance from Milwaukee to Dane county, locating his claim, and making his way to a northern pinery was told by the lumberman that he already had more help than he wanted. Nothing daunted he resolved on appropriating some of the free timber himself and set to work making a raft to take to Dubuque in the spring in hopes of finding a market. All went well till on his way down the Wisconsin, afloat with his entire stock of goods, the clumsy raft went to pieces in the Baraboo rapids and was at once converted into worthless driftwood. This would seem to be enough to cure the western fever in almost any case, but not so this time. He retraced his steps to his native state, married a wife of equal pluck, and with a few borrowed dollars again set out for Wisconsin and the claim he had located, found it awaiting him, and he is still the owner of it together with many contiguous acres. At the risk of wandering a little from the subject we must follow this man a stage or two farther. He served three years in a Wisconsin regiment in the Civil War, homesteaded and preëmpted half or three quarters of a section in Dakota when the first general rush to that territory occured, and in 1900, forty-nine years after his first visit to Wisconsin, spent a summer in Cuba grubbing out brush and planting fruit, and already has bearing bananas in the island. This is a sample of the stuff that the genuine American pioneer was made of.

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[63] Quoted with some slight changes for the sake of brevity from Janesville *Gazette*, June 24, 1886, *Wis. Local Hist. Coll.*, XVIII.

[64] "My father had raised the body of a hewn log house, which was considered very nice then. His first thought was to finish that so we would be more comfortable. The boards for the floor and shingles for the roof had to be gotten out by hand, but it was at last accomplished, and some time in January we moved into it. The next thought was to obtain seed for spring sowing, so my father hewed out timber for building purposes, rafted it down the river to Janesville where he sold it and bought potatoes, paying $5 per bushel, and beans the same. That of course did not mean many to eat, but as soon as they could grow we had plenty."—Watertown *Republic*, June 26, 1889, *Wis. Local Hist. Coll.*, 11.

The importance of the little markets at the mines and pineries was greatly overestimated. "For many years to come the surplus produce of the settlers will find a ready and profitable market at the Wisconsin pineries, Ft. Winnebago, and other points on the river." [65]

By the time the first farmers were fairly settled and had succeeded in producing a little more plain food-stuff than was needed for family use, the much-vaunted "home market" bubble had burst. In the early '40's butter sold at the country stores as low as five, or even three cents a pound. Wheat was worth from thirty to fifty cents in Milwaukee and the cost of hauling it there was equal to half or two-thirds of its value. Hogs although few, as we now view it, were a drug on the market, and after being dressed were often hauled forty or sixty miles to the pineries to be bartered for shingles, and in many cases the load of meat would no more than pay for a load of shingles.[66] Pork was quoted at two and three cents, beef about the same, and even at these figures the payment was seldom made in cash, there being almost no cash in the country, and that little going for taxes and postage stamps.

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[65] *Wisconsin Enquirer*, November 14, 1840.

[66] I stayed one rainy day the summer of 1901 in a house in Dane county which still had shingles on the roof obtained in this way—it leaked.

Barter was the only alternative to a complete stoppage of trade, and in consequence it was used as thoroughly as though money had no place in the economy of that time. Butter, eggs, turnips, and what not, were peddled around Madison by farmers who had brought them a distance of twenty miles only to find that the discouraged storekeeper would take no more produce at any price. And the townspeople who did take it often paid with an order on the storekeeper, and this paper usually had to be approved by the storekeeper before it was accepted by the truck vender. These were indeed the days of small things.

Few of the early settlers had any draught animal besides the ox, and not infrequently even this was wanting. The first man to till the soil in the town of Vermont had no equipment other than a spade and a hoe.[67] Occasionally cows were yoked to the wagon or the plow, and only once in a long while was a farmer found who owned a horse. All things considered the ox was the most suitable for pioneer motive power. He was slow, but not so helpless in a swamp, not so dainty in the matter of food and drink, not so sensitive to cold or wet, or so dependent upon three regular meals a day as the horse. Until experience taught them better the pioneers used a breaking plow twenty, thirty, even thirty-six inches wide, and for moving these ponderous ditching machines, which must be run at a great depth in order to keep them steady, much power was required and the movement was necessarily slow. For this work some six or eight yoke of cattle with two or three drivers were required. Often the oxen were fed only grass which they must gather for themselves at night. At noon but a short pause was made to allow the men to eat their lunch, it being too great a task to yoke up a herd of unwilling half-broken oxen more than once a day. In case the ox and his owner were both new at the business progress was slow indeed, and it is a wonder that any headway at all was made. A concrete example of this will illustrate the seriousness of the problem. An Englishman, two years in this country, and wholly without experience in working cattle, entered a piece of land in the northwest part of the county, and bought at the same time a pair of young untrained oxen. At the end of the first season he had plowed five acres of oak openings—"if you could call it plowin'" as he remarked with a grim smile.

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[67] *History of Dane County*, 933.

In case the new arrival had no means of doing breaking the first year, he could hire a few furrows turned by paying at the rate of five dollars per acre.[68] Later the price of breaking fell to two dollars, and two and a half dollars per acre, the former price for prairie, the latter for oak openings or such woodland as could be plowed without the use of the ax and grub-hoe, yet it is agreed that in the manner the work was done, more "openings" than prairie could be plowed in a day.

A lack of suitable implements was a serious inconvenience quite as often as lack of teams. Grain was cut with a sickle, a scythe, a cradle; was bound by hand, threshed with a flail, winnowed by being tossed into the air with a shovel, pounded to flour in a wooden mortar, baked in a rude oven, and the bread eaten without butter.[69] Men who had never shown a tendency to any description of skilled workmanship turned their hands to a multitude of home manufactures—ax-helves, flour-chests, tables, chairs, beds, baskets, rakes, harrows, rollers; in short those who had once depended on the various members of the community for everything, again became in a great degree independent, but lost their one art, which perhaps was overdeveloped, to gain a primitive knowledge of blacksmithing, carpentry, masonry, healing, hunting, fishing—little wonder that there was not energy and skill left over to make anything more than mediocre farmers. Blacksmithing was perhaps the greatest bug-bear in this category. Until there was promise of sufficient work to enable a man to earn a living at the forge, few cared to set one up, and the stories told of trials in getting blacksmith work done are many and picturesque. As much as they would stand plow-shares were beaten out cold; sometimes they were heated in a fire of chips on the open ground and hammered out on an iron wedge driven into a stump in lieu of an anvil. One man, wishing to give his tired oxen a rest, carried the share of his breaking plow to Madison, had it sharpened, and returned the same day, making the entire round trip of forty miles on foot. Another man after vain attempts to "toggle" his log-chain found that the splices took up too much of the length, so putting the pieces into a grain sack and taking it across his shoulder he lugged it ten miles to a blacksmith shop.

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[68] *History of Wisconsin*, by W. R. Smith, pp. 121 and 122.

[69] Every item of this may be proved by people who were familiar with that mode of life in Dane county.

But the entire lack of a plow was one of the worst misfortunes, though even this was not necessarily fatal to agricultural operations.[79]

Thus the tale goes and might easily fill a volume, but a mere snap shot at these scenes is all that the present work can admit. Let it be remembered, however, that these very conditions, trivial though they may seem, had an important rôle to play in the prosperity and the character-building of the pioneer. It is true that he solved these perplexing problems because of an inborn and inimitable tact, but it is equally true that in the solution itself the frontiersman gained a self-reliance, a mastery of the situation, a tough body, and a clear head—all of which were needed in good time—but that is another story.

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[79] "Mr. F. C. Kirkpatrick, who came to the county in 1827, related his first effort at plowing, being the first plowing done in the present limits of Grant county. He had a horse and harness, but nothing in the similitude of a plow. The framework he easily manufactured similar to the frame of a single shovel; through the beam he inserted a pick, commonly called a sinking pick. With this and his one horse he broke about two acres. The two acres produced a bountiful harvest of corn. The corn was taken to Armstrong's mill, near where Dickeyville now stands, and ground, or rather cracked, the cracklings were grated and the gratings made into bread. In those days we went to Galena for our supply of necessaries."—*Wis. Local Hist. Coll.*, 13, from *County Gazette* (Grant county).

## CHAPTER VI.

## THE ONE-CROP PERIOD.

### SECTION I—WHEAT.

It will no doubt be objected that there never was in southern Wisconsin a time when one crop was raised so exclusively as to warrant the title given to this chapter. We look back to the tobacco culture of early Virginia, or to the cotton production of the gulf states in ante-bellum days, and unhesitatingly speak of them as one-crop periods. We speak glibly of the old Norfolk four-course system as practiced in England for a century previous to the depression of 1875, yet does anyone suppose that the tobacco growers of Virginia or the cotton planters of the South would have accepted the term "one-crop system" had they been accused of practicing it? Or does any student of English industrial history think that the Norfolk system was followed with such conscious care and precision that one could predict the periodic return of a certain cereal to a particular plot as an astronomer predicts an eclipse of the sun? However, the term "one-crop period" was chosen advisedly and serves the purpose of giving a general idea of the conditions of these different times and places. Likewise, it must not be understood that every other crop was insignificant; yet seen in perspective even at this short range, it appears to the observer that dairying, stock raising, the growing of other grains, were, all combined, but mere incidents in the general business of attempting to grow wheat. That is to say, wheat was the staple; it was the crop produced for the market; the crop from which a money income was expected.[71]

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[71] Pat. Office Rept., *Agriculture*, II, p. 465.

The reasons for turning attention and energy so exclusively to wheat culture from the first settlement up to about 1870 are too numerous to be stated in a sentence. To begin with, the question as to what crop would flourish in the new country was a grave one. The belief was general that corn could not be raised to advantage. True it was raised by the Indians, but this was a small variety, and was not a sufficient testimony to overcome the preconceived notion that Wisconsin was a little too far north to be reckoned in the corn belt. Or, suppose corn could be raised in large quantities, it was too bulky and too cheap to stand transportation a thousand miles to market. This latter argument was also conclusive when applied to the alternative of raising oats, it being conceded that oats would do tolerably well, at least as to yield.[72] Barley[73] and rye did not seem to gain in favor for a long time, principally because there were greater possibilities in wheat.[74] As a matter of fact they were both more certain to make a fair yield, and towards the latter part of the period barley did gain a considerable significance.

The reasons urged against stock raising were mainly two: first, it was not generally believed that grass or clover would flourish here; and second, quite as important, it was thought that the winters were so long and cold that the cost of housing and feeding must necessarily consume the profits. The poverty of the settlers was one of the most important factors in deciding the channels along which their energies should flow.[75] It required capital to invest in stock, and the keeping of stock required the additional outlay for fences and barns.

The belief that feed could not easily be produced was only natural, since cultivated grasses and clover do not take kindly to the conditions of early pioneer life.[76] They will not choke down weeds or brush in the woods; and not until prairie grass has been partially killed by cropping and trampling can anything better be induced to take its place; even if the wild land is first plowed, tame grass does not succeed well until after the sod is rotted.

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[72] "Oats yield well but are hardly worth raising, as they sell for fifteen cents."

[73] Pat. Office Repts., *Agriculture*, 1852–53, p. 337.

[74] For some phenomenal results in wheat growing, see *Wisconsin Farmer*, I, 44.

[75] *Trans. State Agrl. Soc.*, I, 133, 185.

[76] Pat. Office Rept., *Agriculture*, 1852–53, p. 334.

In the case of wheat all seemed promising; it would do well on new land; in fact it was on new land that it did its best. Very little capital was required to begin wheat farming. A breaking team and plow, a harrow, and some seed wheat was enough for a start. While the acreage was small this was about all that was required with the exception of a wagon in which to haul the crop to market. The entire work of harvesting was done at first by hand. The sickle and the cradle in the farmers' hands constituted the reapers. The flail was sometimes used in threshing, but more often oxen or horses were made to tread out the grain as in ancient times. Men even made it a business to go about the country to do threshing with a pair or two of cattle as the sole threshing outfit. The grain was stacked around a circle or open space some thirty or forty feet in diameter. Preferably the stacks were left till the ground froze and then on this open space, scraped as clean as possible, the grain was spread, and the thresher, with his own oxen and those of the farmer for whom he was working, entered the ring and used alternately the lash and the pitchfork to keep the cattle in motion and the grain properly turned and shaken. In this way two men could thresh and clean in an indifferent manner fifty or sixty bushels of wheat in a day, and the thresher would take his pay in wheat, probably about four bushels.[77]

These very primitive methods soon gave way to something more modern and effective. The fanning mill was introduced about 1840; a "moving threshing machine" came into use, and went out almost simultaneously, in 1846.[78] This machine consisted of little besides a small cylinder and a set of "concaves," with the ordinary teeth. The machine was mounted on a wagon, the power being applied by a chain running on a sprocket-wheel attached to one of the rear wagon wheels, and the work done as the vehicle was driven about the field. The straw was scattered broadcast from the rear of the wagon while the grain, chaff, and dirt fell promiscuously into the box. It is needless to say that farming operations were not revolutionized by this invention.

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[77] This is from a conversation with a Mr. Payne of Prairie du Sac, who worked at this kind of threshing as far back as 1845. See also *Life in Prairie Land*, Eliza W. Farnham, 283.

[78] *History of Dane County*, 871.

A year or two later, a small stationary threshing machine was imported from Scotland;[79] still this was not a "separator" and it was not till the appearance of the well-remembered "Buffalo-Pitts Vibrator" about 1848, that anything striking was seen in the work of threshing. This with the appearance of the McCormick reaper in its various forms, the N. P. Many combined reaper and mower, and a little later the "Marsh Harvester," made it possible to raise wheat in large quantities.[80]

The amount of wheat raised before 1840 was insignificant and was about all used up near the place where it was grown. The yield had been good and the anticipations of the farmer were aroused to fever heat. Yields as high as sixty or even eighty bushels per acre were reported and the quality was beyond anything else received in the eastern market.[81]

In 1840 the crop exceeded all previous records; the straw stood stiff and tall, yet loaded almost to breaking with heads filled with plump, hard grain. Everything favored a maximum yield. The soil was still rich in phosphates, due largely to the ashes from innumerable fires. It was principally winter wheat which was then grown and the deep snow of the previous winter had kept it blanketed from the weather and left it in prime condition for growth in the spring. Reports of Wisconsin wheat-growing went the rounds of the press and it was made to appear that a few acres of this matchless soil would secure a family against danger of want for all time to come.[82] This was just on the eve of the great influx of Norwegians and Germans, who were accustomed to wheat fields in their native lands, and thus were easily convinced that wheat was the crop above all others to rely on here. Strange as it may seem, the question of markets did not become alarmingly important for some years, the immigrants requiring the bulk of the surplus. The milling industry was for a long time inadequate to the needs. Probably this was owing to the poverty of the settlers, and to poor communication with the East, for there was abundant opportunity to make good returns on an investment in grist mills.[83]

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[79] *History of Dane County*, 871.

[80] "The amount of land that a farmer could cultivate was determined by the amount of grain he could harvest."—From a letter from Mr. Robert Steele of Lodi, Wisconsin.

[81] Buffalo *Commercial Advertiser*, September 21, 1847.

[82] See Niles' *Register*, 58, 310. Many such articles may be found in the Milwaukee *Sentinel*, the *Wisconsin State Journal*, etc., for the year 1840.

With these conditions it can easily be understood why there was no great excitement over canals or railroads during the greater part of the decade between 1840 and 1850. The world had not then learned to want the news of the antipodes to be served at breakfast; the question of selling produce was not vital; and as to buying articles from the East, the westerners were passively willing to be humbugged.

The first intimation that there was a limit to the wealth of the wheat fields came in the disguised form of some partial failures in the winter wheat crop during the '40's; that is to say, failure and prosperity had about the same start in the race. Part of the wheat winter-killed and it was soon noticed that the only place where it seemed reasonably safe from this trouble was in the well-sheltered fields in the woods and to a less degree in the oak-openings; on the prairie it uniformly failed.[84] But spring wheat had been tried and found to produce a good crop in these open places, so the wheat fever was merely allayed a bit and showed no symptoms of subsiding. Spring wheat never equalled winter wheat at its best, either in quantity or quality, but while the land was new the returns were moderately good.

Being thus soothed and reassured, the farmer was ill prepared for the rude awakening which came with the failures of all varieties of wheat from 1847 to 1853. For a time he would not be persuaded that the shortage was anything worse than a mere temporary misfortune caused by unfavorable weather; his faith in the soil was unshaken; and his hopes for the future were slow in waning. But there were several dormant forces which now asserted themselves, and compelled the farmer to face the facts. First in importance and persistency were the debts, contracted recklessly which now became due.[85] Creditors had previously been satisfied with the interest, which at the rates charged would equal the principal somewhere within four to eight years. Now the debtor's solvency came in question and the principal was demanded as soon as maturity was reached.

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[83] "Wheat is plenty and selling from $.75 to $.87½ per bushel, yet with all this, flour is scarce and held at $7.00 to $7.50."—Madison *Express*, October 27, 1841.

[84] *Wisconsin Farmer*, III, 145; also confirmed in a letter from Mr. Robert Steele.

[85] *Trans. State Agr'l Soc.*, I, 133.

Another force which injured the farmer had been working away quietly—impoverishment of the soil. It was believed that the soil was good for an age without any attention to replenishment. How any intelligent set of men could be so blind to the fundamental truth of farming as to think it possible to subtract from a given sum without decreasing it, is beyond comprehension; but it must be remembered that Wisconsin soil did appear almost infinitely richer than the granite farms of New England, and even those who came from New York or Ohio had not, for the most part, lived in those states long enough to see the first virgin richness of the soil destroyed. At all events, the vision of a soil which could hold its own under the system of constant robbery was pretty thoroughly dispelled by 1851. No longer could the failure of wheat be charged to caprices of the weather, to poor seed, or to sowing in the wrong time of the moon; the fact of weedy, hard, unresponsive fields was in evidence. All at once there was great interest in scientific farming; the I-told-you-so prophets were ready to account for all the trouble; agricultural societies sprang into existence in nearly every county, and the poor farmer was berated and advised by editor, money-lender and his own fellow sufferers. Accounts of the conditions, and some of the causes for them are given by contemporaries:

"As to the manner of cultivation it is rather slovenly. First they have attempted to cultivate too much land with very limited means; next, they have been deluded with the notion that wheat could be grown successfully for an indefinite period of time . . . that manuring, rotating crops, seeding down with timothy, clover, and other grasses . . . was altogether unnecessary. To surround a quarter section of land with a sod fence, break and sow it to wheat, harvest the same and stack it, plow the stubble once and sow it again with wheat, thresh the previous crop and haul it to the Lake, was considered good farming in Rock county and it continued from year to year; hundreds confidently expected to win by going it blind in this very unscientific manner. Three years out of eleven have produced good crops of winter wheat."[88]

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[88] *Trans. State Agr'l Soc.*, I, 211; see also 152ff, and *Wisconsin Farmer*, I, 243 and III, 44.

That the deterioration in quality was fully as serious as the decline in quantity of wheat, is shown by the fact that Wisconsin wheat brought the lowest price in the market wherever it sold.[87] A little care on the part of the farmer would have served to keep the quality up somewhat, at least for a time. A few seemed to know that ordinary barn-yard manure had a wholesome effect on land that was losing its available plant food, yet it was with rare exceptions that even the small amount of such fertilizer which each farmer had at his disposal was utilized. Handling manure was not fashionable, and no one wished to be thought eccentric. Yards were left till they could no longer be used conveniently because of the annual accumulations; horse stables were moved when the available space for dung heaps around them was occupied. Occasionally the manure was carted off to a marsh or creek and there dumped where it would no longer offend the eyes and nostrils of the aesthetic farmer but would be carried as far as possible from his premises.[88]

Occasionally a farmer tried the experiment of fertilizing a piece of land and published the results.[89] The Englishmen were the exceptions to the general rule in this respect, they having learned the importance of fertilizers in their home country, and in consequence were among the most successful farmers of southern Wisconsin.[90]

Even rotation of crops was not considered a serious matter and, therefore, received very little attention.[91] Occasionally someone mentioned summer fallowing but it was seldom tried, in fact there is no reason to believe that it was practiced in this county at all, though it was not entirely unknown in other parts of the state.[92] Fallowing has not at any time become common in this region, and for a very good reason: it is not needed; but at the time when small grain was raised eight or ten years in succession on the same land, it would have destroyed weeds and given the soil a tilth such as was unknown from the time the land was new till the advent of corn as a main-stay in farm economy.

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[87] Pat. Office Rept., *Agriculture*, 1852–53, p. 332.

[88] *Wisconsin Farmer*, III, 44; V, 193; Pat. Office Rept., *Agriculture*, 1852–53; *Trans. State Agr'l Soc.*, I, 162.

[89] *Wisconsin Farmer*, II, 29.

[90] Pat. Office Rept., *Agriculture*, 1852–53, p. 331.

[91] *Trans. State Agr'l Soc.*, I, 162.

[92] Pat. Office Rept., *Agriculture*, 1852–53, p. 333.

Thus at the beginning of the second half of the century the Wisconsin farmer was involved in debt; was following the same groove which was started by the earliest settler; was thoroughly discouraged. He blamed the weather, the banker, and the legislator, but considered that he himself had done all that strength of body and mind could enable one to do under such adverse circumstances. The weather had for some years been unpropitious and a change for the better took place; the legislature also became kindly disposed and passed several bills in the interest of the farmer, among which was one appropriating one hundred dollars a year to the country agricultural societies; recommendations for tariff reform were made to Congress, and inducements were offered to manufacturers to establish industries within the state.[93] These expedients were not wholly in vain, but they were inadequate to repair the damage already sustained. The bankers shoved no unwonted tenderness toward the embarrassed farmers, and the number of foreclosures of mortgages from 1846 to 1853 was not only great but continually on the increase.[94] For the most part the whole farm was not taken at once, but a forty or two for part payment of a debt.

In very many cases the amount of encumbrance under which these executions were made was no more than two or three dollars per acre. Interest remained at about the same figure, that is, nominally at ten per cent. for long-time loans, twelve per cent. on short time, while practically it was whatever the exigencies of each particular transaction would bear,—often double these rates. The inability of the farmer to pay these absurd charges was the immediate cause of so many mortgage foreclosures. Many gave up farming as a bad job, others moved to a newer country, not a few went to California.[95]

Perhaps the hardest to be remedied of all the ills which beset the farmer were those acquired or inherent weaknesses of his own character, for with all his admirable qualities he was in many ways improvident. He complained that he could not keep cattle because it would take so much extra barn room and fence; yet there was plenty of material near at hand, often on his own farm, to build all the fence he could possibly need; and as for barns, at least comfortable stables could be built with no other outlay than the labor required to cut the logs and put them in place; or they could be sawed and made into a fine frame building if a little money could be raised to pay for the sawing and carpenter work. In many parts of the country convenient building stone was to be had for the taking, and some very respectable houses and barns still standing were made of it. These are some of the historic possibilities; the facts are that the improvements up to the time under consideration were pitifully poor.[96]

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[93] See *Wis. Assembly Journal*, 1851, p. 1124ff; 1852, pp. 939, 957.

[94] The records in the office of the register of deeds show this to be true, and advertisements of land to be sold under mortgages may be found by the score in the *Wisconsin State Journal* for the years named.

[95] *Trans. State Agr'l Soc.*, I, 230.

These conditions were in a great degree the outcome of wheat farming but, and this was more serious, these very conditions were beyond all else, the deciding influences in preventing a change to a better régime. Cows were to be had for twelve or fifteen dollars apiece, but this availed nothing to a man without money or credit even though he were paying twenty-five dollars a year for butter and cheese and letting grass and hay go to waste.[97] The same difficulties confronted him at every turn and thus we have the anomaly of a class of intelligent men who could not raise wheat, yet who were unable to quit the attempt and begin one of a dozen things which offered more returns for less energy. It seemed that something would of necessity happen before long or the very inertia of the system would carry the farmer to the foot of the ladder and all but compel him to start on a new career in a rational way—and something happened. The price of wheat rose from thirty-one cents to a dollar seventy cents between May, 1854, and the same month a year later.[98]

This remarkable rise in price is usually attributed to the Crimean War, and no doubt correctly. Other produce advanced in price, but not in the same proportion, as wheat was the specific article in demand. The effect of this boom was electric. There was no longer any thought of quitting the wheat industry, for even if the yield was small, the prospect of nearly twice as many dollars as bushels was enough to overcome all tendency to radical change. So the change that actually did take place was manifested in a new crusade in search of wheat land. Immigration from the eastern states and from foreign countries took a new start. Prairie land which had once been black-listed, now became so much in demand that it would sell at almost any price and on any terms. One man who still lives in the town of Dane paid twenty dollars per acre for an eighty, with interest at twelve per cent. and thirteen per cent. commission, making it twenty-five per cent. for the first year. As elsewhere noticed, it was under these conditions that the prairie was finally settled, and the prejudice against such land once for all silenced. The new impulse to wheat was sadly brief, but it was sufficiently long to bring with it evils which were long-lived. Prominent among these was the craze for horses to take the place of oxen; this was the first general move in that direction and the purchase of a team was in many instances the first act of a little play in which bankruptcy was the last. A span of good horses sold as high as four hundred dollars, and twenty-five per cent. interest was not unusual.[99]

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[96] " . . . a western settler will live for many years on his farm without ever having a barn, or other out building of any kind, except a very small corn-crib, and sometimes a stable, the dimensions of which correspond better to those of a poultry house than anything else. If barns are built they come along after many years under the head of admissible luxures."—*Life in Prairie Land*, Eliza W. Farnham, p. 283.

[97] *Trans. State Agr'l Soc.*, I, 160-162.

[98] Milwaukee *Sentinel*, May 25 and June 30, 1855.

It takes a year or two to subdue raw prairie and reap from it a crop of wheat, and by the time any considerable quantity had been produced on this high-priced land the price of wheat had dropped to its old level or thereabouts. Did the farmer then revive his disposition to try another form of agriculture? By no means; he had again renewed his vision of wealth to be gleaned from his wheat fields, and this vision, even if a trifle dim at times, kept him plodding faithfully along in its pursuit through the remainder of the decade. Prices were low, crops were poor, debts accumulated; but in 1860 when it again seemed that a change to profitable farming was imminent, another lease of life came in the form of a remarkably heavy crop.[100] This is not hard to account for. The drouth, and rust, and rain, and blight, had in turn or in conjunction prevented the wheat from sapping the nutriment from the soil, and now they took a year off and the granaries were filled to bursting. The price was still low but this was offset by the yield, and again the farmer tacitly resolved to sink or swim with the wheat industry.

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[99] From conversations with Mr. Blackburn of Verona, Wis.

[100] See table at end of this chapter.

With the outbreak of the Civil War the following year, prices started on the up-grade and continued high for the remainder of the wheat period; but there were other considerations even more serious than the price.[1] About 1860 the chinch bug on his northern march had reached Wisconsin; this was certainly ominous, but no considerable share of the crop was destroyed until 1864, in which year and for the two succeeding years, the insect made a clean sweep of the wheat fields.[2] But thinking that when things were at their worst they must mend, the farmers kept the acreage up to a point near the maximum, and until almost the close of the '60's "the wheat crop scarcely lost prestige with our farmers." There were new forces at work to keep it in the lead, among which were, "scarcity of labor essential to all hoed crops, and the increase of mechanical facilities for harvesting" which caused wheat to be cultivated "with more than former zeal and energy."' Other cereal crops about held their own.[3]

The increase in the price of wheat and the scarcity of labor during the war turned the attention of many ingenious men to the improvement of labor-saving machines to be used in sowing and harvesting wheat. Wisconsin was in the lead with these inventions. A Mr. Warner of Prairie du Sac constructed a reaper which is said to have done satisfactory work, and E. W. Skinner of Madison likewise won the admiration of the farmers by making a reaper which seemed to them wonderful.[4] However, there was one of Wisconsin's soldier boys carrying an ordinary rifle in the Army of the Tennessee who was getting ready to be heard from. In the first place, he was dissatisfied with his rifle and spent his leisure moments throughout the war in attempting to perfect the "pin-fire" breech. In this he was at least partially successful, but a shrewd fellow came around and tried to bluff him out of a patent, accusing him of stealing the idea; however, the stranger would compromise, and they struck a bargain at seventy-five thousand dollars. Taking this money, the inventor at once turned his attention to a self-binding attachment to the harvester. There was already a machine which bound by using wire, but to this there were many objections, and a "twine binder" had been suggested by both farmers and inventors.[5] This man had watched his mother at her wheel, tie, with her left hand alone, what was called the "granny knot," and it seemed to him that it was done so easily and mechanically that an artificial hand moved by a chain or gearing could be made to perform the same trick. To make a long story short this was John F. Appleby of Mazomanie, Wisconsin, who, after spending the money received for his gun and as much more loaned him by a friend and fellow townsman named Thompson, perfected the famous "Appleby binder" which may be seen today on almost any binder in the market.[6]

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[1] As in the prosperous period of the preceding decade the farmers decided that oxen were too slow for the times, and within a few years almost every man owned a team or two of horses. As before, horses were high, but general high prices enabled the farmer to meet most of his obligations, and the transition from the one class of draft animals to the other was accomplished.

[2] *Trans. State Agr'l Soc.*, VII, 33.

[3] *Ibid.*, 33ff.

[4] We have here an example of the helplessness of an individual in competition with a wealthy firm; either of those men could make a reaper that would satisfy the trade, but neither, nor both, could keep abreast with Cyrus McCormick, who could buy the patents of a dozen inventors and combine them.

Thus Wisconsin had evidently solved her own problem in the matter of wheat production; it could now be harvested with little additional expense for labor; but the blaze of triumph turned out to be a torch at her own funeral. The economy reacted in favor of her competitors for the great wheat fields of the West now came to the front with their endless quantities of a superior quality of grain. The only advantage Wisconsin had over the farther West was in transportation, and this was a matter of small moment after railroads were once built,[7] in no wise adequate to balance the unexploited fertility of the new districts. The verdict was read in the weedy fields and shrunken and chaffy grain of Wisconsin, in marked contrast to the clean, full-weight product of Minnesota and Dakota. It was merely a new chapter in the same law which a generation before put Ohio at the head of the list of wheat-growing states and then remorselessly dropping her down to insignificance, passed the honor along to be held for brief periods by Indiana, Michigan, Illinois, and so on in turn. Wisconsin had held out well in the struggle, she had used up a considerable share of the fertility of her soil; had worn out a generation or more of hardy farmers;—she can never be charged with inconstancy, for she held on till the bitter end. During the latter part of the '60's, wheat crops in Dane county were almost complete failures and by 1870 wheat could no longer be called the principal crop. In a minor way wheat culture persisted and still does, but for the great majority the wheat tragedy had ended.

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[5] A wire binder which seems to have worked well was invented by S. D. Carpenter of Madison. See *Wisconsin State Journal*, December 29, 1866, August 25, 1867.

[6] These facts were learned from Mr. John Avery of Prairie du Sac, an old comrade and neighbor of Appleby's.

[7] See Transportation, Sec. II of this chapter.

*Acreage, yield and prices of wheat.*

| Year. | Acreage. | Bushels. | Year. | Prices. |
|---|---|---|---|---|
| 1840 | | 290 | 1841 | $1 23-$1 28* |
| 1850 | | 347,250 | 1814 | 35- 87 |
| 1857 | 61,409 | 1,049,000 | 1846 | 60- 62 |
| 1860 | 130,145 | 3,005,000 | 1849 | 30- 70 |
| 1865 | 108,447 | 663,440 | 1851 | 30- 50 |
| 1866 | 65,013 | 1,062,000 | 1852 | 30- 50 |
| 1870 | | 2,535,800 | 1853 | 40- 55 |
| 1875 | 112,431 | | 1854 | 30- 1 00 |
| 1880 | 66,448 | 764,889 | 1855 | 1 20- 1 70 |
| 1885 | 25,725 | 454,000 | 1857 | 36- 1 10 |
| 1890 | 23,493 | 299,000 | 1860 | 50- 93 |
| 1895 | 6,695 | 53,900 | 1863 | 1 10- 1 21 |
| 1900 | 5,367 | 79,158 | 1865 | 90- 1 30 |
| | | | 1866 | 1 58- 1 90 |
| | | | 1870 | 84- 1 00 |
| | | | 1872 | 98- 1 16 |
| | | | 1875 | 90- 1 02 |
| | | | 1880 | 1 02- 1 08 |
| | | | 1885 | 65- 72 |
| | | | 1890 | 77- 88 |
| | | | 1894 | 63 |
| | | | 1898 | 73- 83 |

* For 1841 and 1885-1898, the quotations are for Milwaukee, the rest for the Madison market, taken from Madison papers.

## SECTION II.—TRANSPORTATION.

Aside from the question of making a living for himself and family there was no subject of more vital concern to the farmer than that of transportation facilities for surplus produce. This was not merely a problem for legislative consideration; it was a live, personal interest, and every farmer was ready to assume, not only his little share of responsibility in deciding between two possible contingencies, but the leadership, so far as he could command it, in shaping the course that public activity should follow. It could hardly be expected that any body of men of such different characteristics in nationality, politics, and education, would agree on the means to a solution of even so general a question as road building; and they did not. One party looked to the federal government for aid in the form of land grants; another advocated the bonding of cities and towns for bonuses to be given, with the prospect of indirect returns from the company thus encouraged; many persons were willing to mortgage their farms for a thousand or two thousand dollars, or take shares in the road; a very few would have the state take charge of the matter.[8] To a degree, each of these factions accomplished its end.

The party which looked to the federal government for aid was from the beginning a strong one, and the advantage to be gained from these contemplated improvements was always shown to be national, not merely local. In a letter to the territorial representative in Congress, Governor Doty stated the problem as it then appeared: "To open a free communication by water from Lake Michigan to the upper Mississippi so that the Mississippi steamboats can meet the lake boats, is a great national object. . . . No calculation can be made of the advantages to trade and to the Union, hereafter, of this navigation."[9] A second recommendation was for the improvement in navigation of Rock River and its branches, Pecatonica River, and Eastern Fork, to connect with Milwaukee River, and of the latter stream to Lake Michigan.

During the same year there was an urgent petition sent to Congress asking for an appropriation of money for constructing a railroad from Milwaukee to some point on the Mississippi. It set forth that the territories of Iowa and Wisconsin had contributed so much to the national treasury from land sales that it would be but fair to appropriate money for the construction of the road so much needed.[10]

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[8] *Wisconsin Enquirer*, January 23, 1841.

[9] *Wisconsin Enquirer*, June 1, 1839.

The petition further urged that the contemplated road was destined to be a paying investment from the first, as the great quantities of lead and the newly developed grain fields required an outlet more favorable than the long route via New Orleans. This view was general, and well founded, as seen in the schedule of freight charges on fourteen million pounds of Wisconsin lead.

| | |
|---|---|
| "I. | |
| By the way of New Orleans: | |
| $ .31 per cwt. for delivering it upon the Mississippi ........................ | $43,400.00 |
| $1.25 per cwt. from thence to New York.... | 175,400.00 |
| | $218,800.00 |
| II. | |
| By way of the Erie canal: | |
| $ .35 per cwt. to Lake Michigan........... | $49,000.00 |
| $ .42 per cwt. from thence to New York.... | 58,800.00 |
| | $107,800.00 |
| Making a saving in transportation by way of the Erie canal, of.................. | $110,000.00"[11] |

The thirty-five cents per hundred allowed as charges to Lake Michigan was based on an estimation of probable railroad tariff and was no doubt reasonable.[12] The question of an outlet for grain was then of secondary importance and it was destined to remain so for more than ten years.

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[10] As a stronger plea it was urged that "when the National import of the improvement is taken into view, it would seem as if the enlightened wisdom of your patriotic Bodies could not possibly consent to retard the prosperity of our beloved country by withholding the comparatively trifling appropriations which would secure to the Union *generally*, advantages such as human capacity cannot estimate; . . . This road . . . would prove of paramount utility in the not impossible event of foreign invasion. . . . It would constitute a great link in the great Oregon Railroad to which the indomitable spirit of American enterprise will, at no distant day, exhibit to an admiring world."—*Wisconsin Enquirer*, November 2, 1839. A memorial was sent to congress in 1836 asking nearly the same things, and two thousand dollars was appropriated for a preliminary survey.—Milwaukee *Advertiser*, July 21, 1836, and *Wisconsin Enquirer*, December 1, 1838.

[11] Milwaukee *Advertiser*, July 21, 1836.

The first desideratum in the matter of roads was the modest requisite of passable highways over which teams could move light loads without danger of being stalled. It is true that there was a little flurry of excitement among the earliest settlers over the problem of markets, hence the above mentioned memorials, but by the time there was any considerable number of inhabitants in the territory the first interest had subsided. The local markets, patronized so extensively by the constantly arriving immigrants who took about all the surplus produce, tended to cool the enthusiasm of railroad promoters. However, it must not be understood that there was ever a time when the agitation ceased; there was not, but there was a period of ten years when the sentiment in favor of any radical measures to bring about a new era in transportation was at a low ebb. The following words, though perhaps a little extreme, give a picture of the conditions which had to be faced, and at the same time the views of a considerable portion of the inhabitants:

"We are highly gratified with the course which our legislature is taking in relation to internal improvements; railroads and canals seem to occupy little of their attention. . . . They seem more disposed to adapt their acts to the circumstances of the people, instead of being hurried away by chimerical extravagances which have already dragged some of the neighboring states to the very brink of bankruptcy. . . . Railroads will not be needed in this territory for the next twenty-five years—perhaps never. The utility of such works is almost exclusively confined to the transportation of passengers on some great thoroughfare. For carrying country produce to market a good common road is just about as valuable, and a macadamized road vastly superior. Upon these farmers can travel with their own teams and the expense of transportation is hardly perceptible. We venture to assert that if the railroads authorized to be constructed in Illinois were once completed they would, over and above the cost of construction, be an expense to the state for the next quarter of a century.

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[12] It is stated, however, that lead was actually hauled by team for that sum. Madison *Express*, December 28, 1839.

"The great fault of our western legislators seems to have resulted from their incapability of reducing their ideals to a level with their circumstances. Colleges and universities and railroads and canals have been all their themes, while common schools and common roads seem to have been regarded as altogether unworthy of attention . . . if they had been content to walk upon the earth instead of endeavoring to fly through the air their schemes, if not so splendid, would have been useful. We congratulate our citizens upon the prospect that legislators are about abandoning the fashionable gewgaws of fancy for the humble blessings of reality"[13] This eminently practical and terrestrial legislature had certainly done commendable work in forwarding the construction of common wagon roads which were necessary whether railroads and canals were made or not. During the year 1839 the road from Madison to Milwaukee was located and ten thousand dollars expended in its improvement; it was estimated that five thousand more were needed to put it in shape to satisfy the demands.[14] From this time until about 1862 almost every legislature voted money for building plain wagon roads, and by that time there were seven main-travelled roads leading from Madison to the various parts of Dane county and beyond.[15] In the same period projects continued to be rife for canals and river navigation. The Rock River canal was begun July 4, 1839. It was never finished, yet the vision of running steamers from the Mississippi to the lakes by way of the Fox and Wisconsin rivers persisted in the minds of many farmers and legislators for more than a generation. The whole subject of water transportation may be dismissed briefly by stating that the only grain of any consequence ever carried in this way from Dane county was taken up the Wisconsin from Prairie du Sac to Portage after the railroad had reached the latter place, and was there re-shipped. This was merely a make-shift and cost from three to six cents a bushel for wheat, above the charges from Madison, and so continued until the Chicago, Milwaukee and St.

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[13] *Wisconsin Enquirer*, December 14, 1839.

[14] *Wisconsin Enquirer*, April 22, 1840.

[15] *Wisconsin State Journal*, March 25, 1857.

Paul Railroad Company built a branch from Mazomanie to Prairie du Sac in 1881.

The real struggle in which wheat growers were concerned was that between the advocates of railroads, on the one hand, and promoters of plank, or other wagon roads, on the other.[16] The country roads were in deplorable shape[17] and the only reason they could be tolerated was because they were needed so little. Such things as dry goods and groceries do not count up into tons rapidly where the population is still sparse, and farm produce was not yet demanding attention. By 1845 it was apparent that some kind of improvement must be made to afford means for reaching a market. This was no sudden awakening. The early settlers were already familiar with the stage coach, having come a considerable part of the distance from the eastern states by this means. They were accustomed to the slow movements and high charges,[18] yet there was little complaint. It may thus be understood why plank roads were looked upon as a boon while the demands for transportation facilities were moderate.

Wisconsin began her territorial existence at the most opportune time for avoiding the slough of indebtedness, such as had come near being the ruin of some of her neighbors, and thus we find little disposition for state activity in road building. The plan adopted was to charter private companies and allow them to build the roads and charge toll. It was calculated that the cost of hauling freight over a good plank road did not exceed twenty-five, or at most, forty per cent. of the cost on a plain dirt road.[19]

The first charter for a plank road was secured in 1846 and from then till 1871 no fewer than one hundred fifty such companies were chartered.[20] Few of these enterprises concern us. However there was some enthusiasm over such roads from the time wheat production made transportation a question of prime importance, and in 1853 a plank road from Milwaukee reached the eastern part of Dane county.[21] That it was an improvement over the old wagon road no one will deny, but the warm advocates of such a highway became rapidly fewer. The tolls were considered too high and many teamsters turned off to the old road long enough to avoid the toll stations and yet get considerable benefit from the plank road. The oxen could hardly be kept on the planks because it made them foot-sore. Another trouble came from the unevenness in the way the planks settled into the spongy soil, and many a heavy load had to be taken from the wagon because a wheel had slipped over the side of the slanting road. Besides all this, the planks were laid with almost no foundation except the ground itself and in an incredibly short time decayed and became merely an impediment. We are, therefore, safe in saying that plank roads were a disappointment, and in no sense a solution of the transportation difficulties. As the central and western parts of the state became thickly settled by farmers, who gave almost all their energy to the growing of a crop which must find its market in the eastern states, the demand for railroads at once overshadowed all other plans for meeting the requirements. By 1848 the interest in railroads which had been dormant, began to show signs of awakening.[22] Meetings were held in almost every town and in very many cases there was a strong sentiment in favor of voting bonuses to aid in the construction of the proposed road.[23] In some cases these were actually paid.[24] The town of Lodi, which joins Dane county on the north, was bonded for forty thousand dollars to induce the Chicago & Northwestern to build through its territory. A proposition to bond the town of Medina for twenty-five thousand dollars to be given as railroad bonus was lost by two votes.[25] Dane township bought ten thousand dollars worth of stock in the Baraboo Air Line Railway Company and when the road was actually built by the Chicago & Northwestern Company the stock was surrendered at thirty per cent., and the township raised and paid the difference of seven thousand dollars.[26]

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[16] For an excellent treatment of the whole subject of "Railroad Legislation," see article by Dr. B. H. Meyer, *Wis. Hist. Coll.*, XIV, 206.

[17] *Wisconsin Enquirer*, October 22, 1848.

[18] "Stage Route: Twice a week each way.
From Mineral Point to Madison, $5.00.
From Madison to Ft. Winnebago [Portage], $4.50.
25 pounds of baggage allowed each passenger."
—*Wisconsin Enquirer*, November 15, 1839.

[19] Madison *Argus*, December 5, 1848.

[20] Thesis by W. L. Bolton, 1897. Library of University of Wisconsin.

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[21] *Wisconsin Express*, February 21, 1852; *History of Madison, Dane County, and Surroundings*, p. 230.

[22] It must be remembered that this refers to the farming class.

[23] Madison *Argus*, March 2, 1848; *Wisconsin Express*, May 1, 1852.

[24] For the aid given in the form of public land grants, see "Congressional Grants of Land in Aid of Railway," by John Bell Sanborn, *Bulletin of University of Wisconsin*.

[25] *History of Madison, Dane County, and Surroundings*, p. 231.

This was wild financiering and in every case resulted in humiliation and repentance, but the reason for taking such steps is easily understood.[27] The increased production together with the advancing prices of wheat hastened the construction of railroads, and by 1854 the Milwaukee & Mississippi road had reached Stoughton; the next year it came to Madison, and when in 1856 it was extended to the west, reaching the Mississippi at Prairie du Chien, the momentous question was solved.

Hardly had the eloquence of after-dinner speeches in laudation of the new wonder subsided, when the tones were changed to denunciation of the "giant monopoly" which was fleecing the farmer. This was especially flagrant when it was remembered that the farmers had so recently given of their means and influence to assist in the building of the road. The objections were well founded, for unfair discriminations began at once and continued in the face of vigorous and persistent remonstrances. The railroads had the upper hand; there was no competition from Madison and vicinity to Milwaukee, and the amount of wheat to be hauled was enormous. Early in the year 1857 the opposition to exorbitant profits began to take shape. It is to be regretted that this opposition was not more effective.

It was pointed out that the charges for hauling wheat to Milwaukee by rail were for a time equal to the prices by wagon,

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[26] *History of Madison, Dane County, and Surroundings*, p. 646.

[27] The value of wheat and corn per ton at different distances from market as affected by cost of transportation, by railroad and over the ordinary roads of the country as given in *Industrial Resources of Wisconsin*, John Gregory, p. 236, was as follows:

| MILES TO MARKET. | BY RAIL. | | BY ORDINARY HIGHWAYS. | |
|---|---|---|---|---|
| | Wheat. | Corn. | Wheat. | Corn. |
| 10 | $49 50 | $24 75 | $49 50 | $24 75 |
| 50 | 48 75 | 24 00 | 42 00 | 17 25 |
| 100 | 48 00 | 23 25 | 34 50 | 9 75 |
| 170 | 46 95 | 22 10 | 24 00 | 0 |
| 230 | 46 05 | 21 36 | 15 00 | 0 |
| 300 | 45 00 | 20 25 | 4 50 | 0 |
| 330 | 45 55 | 18 80 | 0 | 0 |

then dropped just enough to cut off all such competition.[28] The overcharges were computed at ten cents a bushel on wheat, making fifty thousand dollars for Dane county. Other produce was estimated to bear an equal tribute.

The grain dealers at the various shipping points were in disrepute as well as the railroads, and to cope with them the Dane County Farmers' Protective Union was organized. This "Union" was directed against the grain buyers, but even if the charges were true, it still appears that the railway extortions were equally obnoxious.[29]

But even in its attacks on the weaker of the two monopolies the farmers' union was an abject failure. An elevator was built at Madison, and wheat was brought from all corners of the county and there stored, in custody of a man chosen to act as agent. The agent sold the wheat, pocketed the proceeds and took "French leave." The chagrined farmers hushed the matter up so that hardly a line relative to the matter appeared in print. The elevator burned down, and the Farmers' Protective Union collapsed.[30]

By the fall of 1857 the railroad managers had become sufficiently alarmed to make some concessions, for matters had reached a serious state.[31] On September 1st, 1857, rates on wheat from Madison to Milwaukee were cut down from fourteen cents to eleven cents, and on this basis the local buyers filled their elevators. Nineteen days later the rates were restored to the old figure and the grain buyers brought suit against the road for violation of implied contract. Even the building of the railroad from Chicago to Madison offered but temporary relief, and the same abuses again called forth the same cry of distress. For a time the struggle between the river transportation to St. Louis and the roads connecting the Mississippi with the lakes resulted in favorable rates to towns along the Mississippi, while Dane county farmers paid nearly the rates formerly charged for hauling by wagon. After this war had been settled in favor of the eastern route, and it looked as though fair play might as well be practised, the different roads began underbidding one another for the carrying trade from the great wheat fields of the west, and the wheat grower of Iowa and Minnesota received more for the same grade of wheat than did the discouraged farmer of Dane county three hundred miles nearer the market.[32] Thus the struggle for transportation facilities was continuous and bitter, and not till after the farmer had been forced out of wheat production as a main business was anything approaching fairness in freight rates obtained. In all this time—a period of nearly twenty years—it does not appear that the farmers had been able to exert any telling influence in the struggle for their rights. Here was a case where nothing short of state regulation could set matters right, and although vastly in the majority, the farmers, it is painfully evident, were not the dominant force in state politics. One explanation of this is seen in their slowness to comprehend the fact that railroads, and railroads alone, must be the means of carrying grain; they never gave up the belief until the transportation question dwindled in importance, with the change to less bulky productions, that competition between railroads and river or canal transportation, was the only source of relief.[33]

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[28] *Wisconsin State Journal*, February 14, 1857.

[29] "Hitherto this wheat [i. e., from Dane county] has not been worth as much as wheat at Prairie du Chien, one hundred miles west of Madison, because the railroad conveyed wheat from the former place, two hundred miles to Milwaukee at five or six cents less per bushel than it charged for carrying it from this city one hundred miles. A railroad connection with Chicago is about to put an end to this order of things. The farmers of Dane county will be able to get five or six cents a bushel more for their wheat than they have heretofore received upon the market at Milwaukee. Say the amount is five cents per bushel and that we produce a surplus of 600,000 of the 1,000,000 bushels annually raised. This will put $30,000.00 more money in the pockets of the farmers the present year than they would receive but for the railway connection with Chicago."—*Wisconsin State Journal*, April 23, 1863.

[30] These facts were learned from Mr. Robert Steele and other old settlers.

[31] The reasons for the remonstrances and something of the feeling manifested are thus pointedly told: "The Milwaukee and Mississippi Railroad charges as much for bringing freight from Milwaukee [to Madison] as the other transportaton companies do from eastern ports to Milwaukee. People prefer to ride in a stage rather than aptronize their enemies."—*Wisconsin State Journal*, August 22, 1857.

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[32] Madison *Democrat*, May 31, 1869.

[33] Madison *Democrat*, August 18, 1869.

# PART II.—DIVERSIFIED FARMING.

## CHAPTER I.

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## THE TRANSITION FROM SIMPLE TO COMPLEX AGRICULTURE.

The change from simple to complex agricultural conditions did not happen in a day. It came so gradually that those who made the changes, and were themselves at the same time undergoing a modification no less pronounced, hardly realized that anything of far-reaching consequence was happening. These results were brought about primarily by economic causes already noted, together with some important social influences, while later, political movements were of equal significance.

Among social influences a few stand out with unmistakable clearness. The Ohio people, in the southern, the northeastern, and the northwestern, parts of Dane county, all engaged to greater or less extent in sheep raising. They had all learned something about the business before coming and were able to bring a few sheep along with them. The Vermonters were also disposed to own sheep, and occasionally an Englishman or a Scotchman ventured to invest in a small flock. There were many drawbacks to the business, yet it persisted in a tentative way from its introduction in the early '50's until a time when opportunities came to give it more attention. To the Ohio people is also due the credit of introducing tobacco culture. The explanation of this is analogous to that of the introduction of sheep—they had learned the business at home and brought it with them. Cattle were of course indispensable, but it was the cheapness of this kind of stock in the older states of the Northwest which accounted for the fact that cattle raising came in as fast as it did. Hogs were kept as extensively as the market would stand, until the high-price period of the '60's, and why they were not then raised in large numbers instead of by the half-dozen or so, is a hard question to answer. It is usually said that the price of breeding-stock was so great that few could afford the investment. This is about equal to arguing that seed corn is too valuable to plant, and therefore must be made at once into meal. A few men did have enough foresight and enterprise to go into the business in earnest and these were soon able to pay off the incumbrances on their farms and to buy more land as well. Fat hogs sold as high as fourteen dollars per hundred for a time, but to a farmer with fewer hogs than it takes for a wagon load, as was the usual condition, this was a matter of small concern. As for cattle, the difficulty of getting a start was serious enough to be accepted as a good argument, against raising them; but in letting the years from 1861 to 1868 slip without branching out into the swine industry, the Wisconsin farmer missed an opportunity such as comes to few generations of farmers.

The war was the cause of many experiments and modifications in agriculture throughout the North. One of the most noticeable of these was the attempt to produce sugar at home. In Wisconsin there was considerable excitement over the possibilities of growing sorghum on a commercial scale. Meetings were held, and papers were read and published, in which it was predicted that we could easily get along without Louisiana sugar; that the inconvenience of the high tariff on foreign sugar would be forgotten when sugar was made in sufficient quantities at home, and that molasses and sugar might possibly be exported. Even the seed was to prove an item of consequence by affording feed for stock.[34] A state convention was held at Madison for the purpose of diffusing sentiment and gathering information.[35]

Under the same stimulus the production of honey increased several hundred per cent., but even then the total amount was not a matter of consequence.

Another crop which attracted considerable attention for a brief time was flax. The first of any importance raised in the county was in 1851, and had the flattering results of the experiment proved to be the rule, the distinctively wheat period would, no doubt, have terminated soon after that date.[36] Coming as it did, at a time when wheat had been for several years a failure, it is no wonder an innovation of this kind should be taken seriously. At this time the main plan was to manufacture linseed oil and thus effect a big saving in freight.[37] There were several reasons why flax could not gain permanently in favor. In the first place, it would not flourish on impoverished or foul land, yet this was the only place there was to put it except on newly broken soil, which usually did well in wheat. Again, the average yield of flax was small, and finally it was believed to be peculiarly exhausting to the soil. On the other hand, the yield and price of wheat were just on the eve of an advance, and the flax project was soon forgotten, until in the '60's when the high price of cotton cloth brought it forward again as a possible solution to the question of cheaper clothing; the amount produced however was insignificant.

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[34] *Wisconsin State Journal*, April 8, 1863.

[35] *Wisconsin State Journal*, January 21, 1864; *Trans. State Agr'l Soc.*, VII, 35, 100; an account of this convention appears in the same volume.

Hemp was another exotic which came in with war-time prices and in 1865 something over eight thousand pounds of fibre were produced in Dane county.

More important than any of the foregoing changes was the impetus given to wool production. Before 1860 the number of sheep kept had suffered a decline; now within four years there was a fourfold increase. In view of the good prices of wool and mutton, the pastures and meadows required for feeding the sheep, and the utility of this animal in ridding a farm of weeds and adding to the fertility of the soil, the increase in sheep raising may be counted as one of the first permanently helpful incidents of the wheat period.

It should also be noticed that the better prices for barley and oats, the need of corn for feeding the increasing numbers of farm animals, and the room given to the new crops above enumerated, though of small significance taken separately, had in the aggregate made a perceptible reduction in the acreage sown to wheat, and thus perforce introduced a system, though an imperfect one, of rotation.

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[36] *Wisconsin Express*, March 4, 1852.
[37] *Wisconsin Express*, March 18, 1852.

Altogether the system of agriculture in 1870 was radically different from that of a decade before. The change had not come by observation; it had crept in little by little, and had the ninth census been more complete, the returns would have occasioned even a greater surprise than they did.

# CHAPTER II.

## HOPS.

The first break in the monotonous round of wheat culture in Wisconsin came with the brief but exciting period of hop growing. For nearly thirty years the farmer had gone over the dismal routine of plowing, sowing, and harvesting, the crop often poor in quality, usually low in price; he saw his land steadily becoming less productive, yet with persistence more heroic than intelligent, he had consistently refused to be led from his beaten path by the most reasonable and stable temptations. But even this dogged conservatism was not entirely secure from contaminating influences, and it finally broke down under a complication of internal and external attacks.

The hop craze, although exceedingly brief in its main outlines, had its roots grounded well back in Wisconsin history. There is hardly a doubt, although the data for proof are not at hand, that the introduction of this crop is to be credited to the people who were familiar with its culture in the state of New York. At all events, the names of the men who first are mentioned in this connection are without exception the names common in New York settlements.[38] As early as 1850 a few attempts had been made in the direction of hop culture, and the results were flattering indeed.[39]

The success of hop growing was so well proved that by 1853 it would seem that the time for a boom in it had arrived; but not so. It will be remembered that this was just on the eve of the impetus given the wheat industry by a period of high prices; thus the hop fever lay dormant for a long interval. Other visions occupied the farmer's mind, with wheat always in the foreground. With the dull times of the late '50's advocates of hops tried to assert themselves; but not till the hopes of fortunes in wheat had been abandoned in the chinch-bug period, did hops receive the serious attention which seemed destined to be paid them for a season. Still it was not the failure of wheat alone. The rise in the price of hops was a factor of equal importance. The following quotation seems to be so admirably to the point as to be worth giving in full:

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[38] *Trans. State Agr'l Soc.*, III, 59.

[39] "I have been in the hop culture . . . three years in Wisconsin. . . Good corn soil the most suitable for hop-raising . . . five acres last year gave me one ton of hops per acre, which I consider as an ordinary yield with good care. The cost of cultivation is about six cents per pound. . . . I sold the yield of my five acres for $1,400.00. I consider the hop crop as sure as any I have ever raised. It can be kept up ten or twenty years with good management."—*Wisconsin State Journal*, Jan. 18, 1854.

The "introduction and extraordinary run [of hop culture] in this state are mainly due to three circumstances—the failure of the crop, or rather repeated and utter failures of it, owing to ravages of its insect foes, in New York and other portions of the East, whence western supplies, even, had been largely drawn; to the fact that some of the largest establishments [breweries] of the country—and a good many of them—were located in our own Metropolitan city; and to the further reason that the climate and soils of Wisconsin seemed to be admirably adapted to its healthy growth.

"The crop of 1860 was so trifling as hardly to deserve mention. But in the year 1864 it amounted to 385,583 pounds, as shown by the incomplete returns to the secretary of state, with a value of $135,127; and in 1865 to 829,377 pounds with a total value of $347,587. But even this was only the beginning. In 1866 the business of planting and poling began in earnest and before the season was over, the fever raged like an epidemic. Gathering renewed force with every new acre planted in the county of Sauk, where it may be said to have originated, and where the crop in 1865 was over half a million pounds; it spread from neighborhood to neighborhood and from county to county until by 1867 it had hopped the whole state over; so completely revolutionizing the agriculture that one in passing through found some difficulty in convincing himself that he was not really in old Kent of England. Even many of our old fashioned wheat farmers caught the infection and for once have disturbed the routine of their operations. In 1867 the crop in Sauk county alone, which has still the honor of being foremost among the forty or more counties that have enthusiastically followed, is believed to have been over four million pounds, with a cost value of little, if anything, short of $2,500,000.00.

"Cases are numerous in which the first crop had paid for the land and all the improvements, leaving subsequent crops a clear profit, minus the cost of cultivating and harvesting. The crop of the present year throughout the state will be so great that we dare not venture an estimate. The yield in various parts of the state equals one ton to the acre, and the Wisconsin hop commands the highest price in the eastern market.

"Already the hop-louse has discovered our magnificent crop and sent out his skirmishers to prepare the way doubtless for a general attack. Moreover, the price seems sure to decline before any newly planted yard or field can possibly yield its first marketable crop. Fifty-five cents, the price of last year's crop, paid magnificently; but twenty-five cents would hardly warrant the sacrifice of every other interest to go into this particular business."[40]

As would be expected, the profits of hop growing were greatly exaggerated. The Baraboo *Republic* estimated the cost of starting a hop yard as five hundred dollars per acre. This seems high, but it must be remembered that a hop shed was a building which involved no small expense and was indispensable to success in the business. The roots for planting an acre, though a small item in the expense, cost sometimes twenty dollars; poles were another matter of considerable consequence, and the work involved was greatest of all. Twenty-five cents per pound was estimated as the lowest price at which crops could be grown with profit.[41]

When the time for picking arrived, which began about the last week in August, there was a general rush of girls and boys, mostly the former, from distances of a hundred miles to the hop field. "Every passenger car is pressed into service, and freight, and platform cars are fixed up as well as possible for the transportation of the pickers. Every train has the appearance of an excursion train on some great gala day, loaded down as they are with myriads of young girls. The most of them have their places of labor engaged in advance."[42]

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[40] *Trans. State Agr'l Soc.*, VII, 30.

[41] Article quoted in *Wisconsin State Journal*, May 11, 1867.

The price paid for picking was forty or fifty cents a box. This great expense induced a Sauk county man to attempt the invention of a hop-picking machine, which was to save the county a million dollars for help in one season.[43]

It is doubtful if Wisconsin farmers ever made money so fast or so easily at any other time or in any other business, as in hops for the two or three years preceding 1868. There are still to be seen in the main hop districts, barns which were once hop houses; and residences, which if not particularly elegant at present, show a magnificence entirely out of keeping with the later '60's. There are also stories, more or less reliable, of fine carriages, new harness, and high-stepping horses, pianos, and trips abroad, all based on the fabulous wealth made, or more often to be made, from hops.[44] This phenomenal prosperity dropped with hardly a premonition upon the shoulders of men little wonted to the handling of money in considerable sums, and the wonder would be in stories of a different nature, rather than in the doleful tales as they are. Feeling that they had a secure and lasting hold on a veritable bonanza, they had no hesitancy in contracting debts of any size or paying any price, however high, if only fancy prompted their untrained judgments to make the venture.[45] By 1868 the fairy tale was about told; hops were again growing in New York, and the price was on the down grade while, worst of all, the rust and the hop-louse were running riot in the Wisconsin yards.[46] As an example of the temptation to risk every thing in this one precarious industry, one farmer is reported to have raised in 1867 three thousand one hundred pounds of hops on a single acre and sold them at $.58½ per pound.[47] It must be admitted that something more than ordinary judgment was needed to keep men from embarking in an adventure with such inducements.

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[42] Madison *Democrat*, September 1, 1868.

[43] Madison *Democrat*, June 1, 1868.

[44] This statement is based upon conversatons with A. A. Mickelson of Black Earth, Mr. John Lorch of Madison, and many others who knew the circumstances.

[45] *Trans. State Agr'l Soc.*, VII, 420.

[46] Madison *Democrat*, September 16, 1868.

[47] *Wisconsin State Journal*, December 6, 1867.

One writer remarks that ninety out of a hundred would engage in such a reckless pursuit, even though their judgment told them that, in a series of years, they would be worse off—"slowly accumulated wealth will not do for our people."

The prices of provisions responded readily to the new impulse; for example, butter which had before been a drug at fifteen cents, now sold for forty cents in hop-picking time. The store keepers took advantage of the occasion to collect back debts and take an added toll from the goods then on hand, but most of them paid dearly for it in the end by giving credit anew and eventually failing to collect the bills. Interest overleaped all bounds and came up to a point about equal to that reached in the preceding years. "There is money in the country, but it demands extremely high rates of interest; as high as ten per cent. per month has been paid for the use of money."[48] Horses and other live stock advanced somewhat, as near as may be learned, but it does not appear that the price of land was at all affected. It may seem a little strange that land producing a hundred dollars and upward per acre should continue at the same price, and as a matter of fact, farms with flourishing hop yards did sell occasionally, i. e., within a few years, for less than the mortgage placed against them during the hop craze, but this was due to a false estimate of the improvements as there was at all times a great deal of land to be had suitable for hops which was not so used.

The hop episode ended as suddenly as it had begun. The crop of 1867 sold readily at fifty or sixty cents a pound; the crop of 1868 was the largest raised, but the quality was far below that of the preceding year, and rather than take half price a great many held the hops over to the following year, by which time the bottom had dropped completely from the hop market and the old crops were sold in Milwaukee as low as two and a half cents a pound.[49]

It will be noticed that the state instead of the county has been treated in this chapter; this is because Dane county was sufficiently involved in the hop industry to require recognition in some way, but was not a typical hop-growing county of the state.[50] It was in Sauk county that the business first began in earnest, and throughout, Sauk was far in the lead, even raising nearly half of those grown in the state. In 1868 Sauk county raised six thousand acres of hops, Dane county six hundred fifty acres. The location of the hop district is told in the Madison *Democrat* for June 29th, 1868: "We believe it is well settled that Kilbourn City is the greatest primary hop depot in the United States, perhaps in the world. The region that markets and ships its hops here raised last year about one-fourth of all raised in the United States, and over two-thirds of all raised in this state. . . . Last fall over twenty-two thousand bales raised in this vicinity were shipped from this depot for which over two million dollars were received."

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[48] Madison *Democrat*, September 19, 1868.

[49] *Trans. State Agr'l Soc.*, IX, 28.

[50] The data on Dane county hops are hard to find. In 1850 the yield is reported as 120 lbs.; 1866, 10,800 lbs.; 1875, 274 acres; 1880, 116 acres.

It seems strange that such a large number of intelligent men should be led astray financially, when the facts could be definitely known which pointed to disaster. Voices of warning were not wanting.[51] Again and again attention was called to the danger from the hop-louse and the equal danger from a fall in prices which in the nature of things had to come, for New York was once more growing hops. But the possibilities were so great that the probabilities failed to gain the attention, each man hoping that his own fortune would be safely made before the crash should come. And although many modest fortunes were made, the annals fail to record a single instance of a hop grower who came out of the affair richer than he went in. What the actual loss was can never be known; it was not alone in store bills and mortgages left on the farmer's hands, but equally important was the change in the system of farming. When the hop industry began, there was already a tendency toward stock raising and dairying, and these beginnings were now to be made anew, while the farmer was not in as good condition to make them as before.[52] In all too many cases he was a speculator who had staked his last dollar and lost.

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[51] *Trans. State Agr'l Soc.*, VII, 299. *Wisconsin State Journal*, December 6,1867.

[52] *Trans. State Agr'l Soc.*, VII, 420. I have also gathered many of these facts from the men who passed through the experience.

# CHAPTER III.

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## TOBACCO.

Although tobacco is rated as a crop belonging to the later, or diversified period of Wisconsin agriculture, it had its beginning at an early date. The Indians had raised it for a century at least, and it is sometimes held by old settlers that it was from the red men that the notion of growing tobacco in the state originated. This can hardly be proved or disproved; it seems reasonable to suppose that the suggestion might have thus been given, but beyond this the Indian cannot be implicated in the matter. When and by whom, then, was the first tobacco raised in Wisconsin? It is pretty safe to predict that no final answer to the question is to be given. At all events the testimony is abundant and conflicting.

The names most often mentioned in connection with early tobacco growing are those of two brothers, Ralph and Orrin Pomeroy. The facts concerning their history are easily obtainable, and while it seems reasonably certain that they did not raise the first tobacco in the state, they did in all probability raise the first in Dane county, and it was they who gave the industry its permanent footing as a farm crop in the heart of the tobacco section.

It is reported that tobacco was found growing wild on both sides of Lake Koshkonong about 1847.[53] This must have been the remains of Indian tobacco patches as the plant is by no means indigenous here. The earliest date claimed for the introduction of the crop is 1838. Hon. E. W. Keyes of Madison, in a letter published in the *Wisconsin Tobacco Reporter*, November 13, 1885, states that his brother Abel brought some seed from Binghamton, New York, to Jefferson county, Wisconsin, and raised a small quantity of tobacco for home use. This makes it appear that tobacco was introduced here as early as in the Miami valley, Ohio, where it became important long before Wisconsin was reckoned among the tobacco-growing states. The next testimony is contemporaneous and gives the status of the new industry in 1840.

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[53] *History of Madison, Dane County, and Surroundings*, p. 331.

"The resources of the west are continually developing. . . . We are informed that a number of inhabitants on Rock River whose granaries have been filled to overflowing the past two years, and who have found it inconvenient to dispose of their surplus products, have resolved to direct their attention to other means of obtaining profit from the products of the soil. Accordingly, the experiment of raising tobacco has been tried the past summer and has been found to succeed beyond expectation. The growth of the plant was astonishingly rapid, and it was brought to perfect maturity and completely ripened about the middle of August last. Many of the leaves measured three feet in length and twenty inches in width. . . . It has been demonstrated that one acre of land can, with the greatest ease, be made to produce one ton of tobacco. The price of one ton at twelve cents per pound would amount to $240. The cost of preparation and manufacture after the crop is gathered is estimated at three cents per pound. . . . The allowance for sowing and cultivation cannot possibly exceed three cents per pound.

"We understand that the prospect of success in the raising of tobacco is regarded in so flattering a light that arrangements are making for engaging extensively in the business the coming season, especially in that section of the country on the Pecatonica and on Rock River, between Beloit and Rockford."[84]

The interest in this quotation lies principally in the reasons given for launching into the new business. It was a question of transportation: the granaries were full. The price of tobacco was then high and continued so for a long time, and it seems strange that after once getting the idea definitely in mind to raise a crop comprising more value in less bulk, that wheat continued to hold first place for more than a score of years. Tobacco, though for a long time insignificant in quantity, was not wholly dropped. It sometimes happened that assessors failed to get statistics, because there was so little tobacco that neither they nor the farmers thought to list it as a farm crop, but a series of discussions and guesses as to the early history of the plant brought out the fact that it had persisted almost from the beginning of Wisconsin farming. Again, we have some light shed on the method of initiating the crop into western society.

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[84] *Wisconsin Enquirer*, September 16, 1840.

". . . Elias Hibbard (grandfather of the writer) settled at Troy, Walworth county, in 1843. In 1848 he obtained from Connecticut two professional or expert tobacco raisers whom he set at work cultivating the weed. . . . Tobacco was raised on that farm continuously and throughout that section from 1844 to 1866, when prices were so low, and nearly every farmer with two, three, and sometimes, five crops on hand discontinued the business as there seemed to be no market for the stuff. . . . We raised tobacco for years before it was ever thought of in Stoughton."[55]

Although not so stated, it is reasonable to suppose that the seed, as well as the growers, came from Connecticut, but this is of small consequence, since the tobacco raised in New York, Pennsylvania, Ohio, and Connecticut was approximately of the same variety.

Mention is made from time to time of small quantities of tobacco raised, usually for home consumption, and so far as testing it goes, the possibility of success was pretty early established.[56] Little more was said about the matter during the wild scramble for fortunes in wheat, but in the early '50's, when that crop failed both in quantity and price, the tobacco experiments were renewed. Dodge, Kenosha, and Jefferson counties reported small quantities of tobacco in 1851, and in the latter county one farmer estimated that at six and eight cents a pound he could clear forty dollars an acre above expenses.[57] These were feeble beginnings, and the conservatism and inherent difficulties attending the establishment of tobacco as a crop stood no show of being overcome in the face of the momentary boom of wheat prices in 1854. It did, however, seem in a fair way to gain a foothold till in 1858 an early frost all but ruined the crop, and in the following year less than nine thousand pounds were raised. The number of acres is not obtainable but that amount ought not to require above eight or ten acres.

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[55] *Wisconsin Tobacco Reporter*, February 1, 1895.

[56] The experiment of raising tobacco in Wisconsin has been tried this season, and succeeded beyond expectation.—*Niles' Register*, LIX, 80 (1840).

[57] *Trans. State Agr'l Soc.*, I, 239; *Wis. Farmer*, IV, 22; Pat. Office Rept., *Agriculture*, 1851-52, p. 465.

It was not till 1853 and 1854 that tobacco found the spot destined to be its favorite in Wisconsin.[58] It was at the time that the Pomeroys, above mentioned, came from the Miami valley, Ohio, where members of their family had introduced tobacco culture some fifteen years before. This venture in Ohio had proved an unqualified success, and these young men brought with them the thorough knowledge of the business requisite for making a similar record here.

"It was in March, 1853, that Ralph Pomeroy came to Madison from the Miami valley, Ohio, where Pomeroy had previously grown tobacco. In company with J. R. Hiestand they rented ten acres of land of Hiram Hiestand, five miles south-west of Madison on Syene Prairie, at five dollars per acre. The field was planted with the old Connecticut seedless variety. The crop was a fine one—very large growth; estimated to yield at least a ton per acre. To cure the crop they built a two tier pole shed, in the then Ohio style, and borrowed rail fence enough to hang it on with twine, instead of lath [as] at present. . . . . The first storm after the crop was harvested drove the shed flat upon the ground, while the rain washed sand down the hill and nearly covered the tobacco. . . . The tobacco was stripped and sold to Dewey and Chapin of Janesville at 3½ cents per pound. . . . This was undoubtedly the first tobacco ever marketed in the state. . . . The next season [in 1854] they [Ralph and Orrin Pomeroy] raised their first crop of tobacco in Rock county."[59] That this was the first tobacco marketed in the state is hardly true but the error is unimportant.

We have, then, the independent introduction of tobacco growing by people from at least three different states, yet it would seem that the reasons for attributing its success to the Ohio people are fairly good. It was the Ohio immigrants who happened to enter the section best adapted to tobacco growing; it was they who persisted in its culture through adverse circumstances; and it was in their communities on "Tobacco Prairie," "Wheeler Prairie," and "Albion Prairie," that the first considerable quantities were raised. It was from these neighborhoods that tobacco culture spread among the Norwegians who have ever since been its principal cultivators.

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[58] However, there had been one attempt by a Connecticut man to raise tobacco near Lake Koshkonong (which county of the three bordering the lake is not stated) in 1851. It grew well, but was lost in curing. See *Wisconsin Tobacco Reporter*, September 25, 1885.

[59] *Wisconsin Tobacco Reporter*, October 21, 1885 See, also, issues of December 5, 1879; August 24, 1883; November 23, 1894.

During the next ten years the same little farce was played again. In 1860 the price was high and it seemed that tobacco was going to be raised in considerable quantities, but again the price of wheat came to the rescue, and the farmers were saved from prosperity. The shutting off of the southern supply of tobacco created a new demand on the northern grown crop but this was no greater comparatively than the increased demand for almost all other farm products. There was a tendency to quit wheat and go into tobacco, but the expense of building sheds, and the question of the required fertilizers were hindrances,[60] and by the close of the war the prices had dropped again. This depression was of short duration and by 1868 the sixteen to twenty cents a pound—in depreciated money of course—was sufficient to coax the growers into new ventures.[61] All went well for two or three years, but in 1871 the price slumped to one-third of that of the year before, and remained below remunerative figures for an entire decade. The acreage naturally declined, reaching low water mark in 1876, when Dane county had hardly more than is now planted in a single town. Again, the new decade opened auspiciously. The price climbed steadily upward and the acreage increased correspondingly, until in 1883 the unprecedented price of a quarter of a dollar a pound was paid by a few reckless buyers. Within the next two years the acreage had doubled. Men who knew nothing of the business beyond the startling fact that more than three hundred dollars had been made on a single acre in one year, became growers on a large scale.[62] The beginners always produce a poor quality and are thus a constant menace to the business; but, seeing their neighbors reap more profits from a ten acre lot than they themselves had received from a quarter section, it is little wonder that a large number were willing to stake their holdings on the lottery.[63] The inevitable happened: over production, poor quality, disgust—and the year 1886 saw the quantity reduced as abruptly as it had been increased. The price began at once to recover, and at a fair level remained remarkably steady for half a dozen years. The acreage responded, but in a modest manner, and it was fourteen years before the mark set in 1885 was again touched. It was under this steady, but solid growth that tobacco won a permanent and dignified place in Wisconsin husbandry. Yet for the fifth time the middle of the decennial decade brought a depression. The prices in 1895 were only about half as high as in 1890 and the acreage followed approximately the same ratio. As in each of the other decades the closing years brought a gradual recovery and at the end of the century the price was high and the acreage twenty-five per cent. beyond that of the preceding prosperous periods.[64]

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[60] *Wisconsin State Journal*, April 20, 1864.
[61] Pat. Office Rept., *Agriculture*, 1871, p. 405.
[62] *Wisconsin Tobacco Reporter*, February 15, 1884.

It is a remarkable fact that with all the excitement over the increase and spread of tobacco culture it is confined to a very limited area. In 1898, approximately a quarter of the entire crop of the state was raised in the four southeastern towns of Dane county; in 1899, these towns raised a fifth of the entire crop of the state. Had it so happened that the southeastern quarter of Dane and the northern part of Rock had fallen within the lines of one county as it might easily have done, a full half, or even more, of the Wisconsin tobacco crop would regularly be reported from a single county. The question of accounting for this has met with varying solutions. Is it a social question? Manifestly not; for as we have seen before there were plenty of men from tobacco growing states other than Ohio, scattered over the southern part of Wisconsin, who began the culture of the plant. Neither can it be explained on the basis of Norwegian settlements, for there are plenty of these industrious foreigners in other parts of Dane county and of the state. The slight differences in climate are wholly inadequate to settle the matter, so we are, perforce, driven for the explanation to the other main element in agriculture, viz.:—the soil. It may be seen by comparing a geological map of the United States with a map showing the tobacco areas that the limestone valleys and the tobacco districts in a rough way coincide. This is particularly true in Massachusetts, New York, and Ohio. Southern tobacco need hardly enter into our discussion, since it is of an almost entirely different quality and does not compete to any serious extent with the northern grown leaf. Northern tobacco, it may here be stated, is valuable for its leaf primarily. It is used in making cigars, and the size and texture and color of the leaf are of much more consequence than the flavor. To produce those qualities the soil must be rich, and of such a nature as to permit a very rapid growth in a latitude so high that the summers are but about three months between the frost dates. The quality of soil best for tobacco is discussed at length in the tenth Census Report and the statements there made are fairly well borne out by the subsequent history of the crop. The leading tobacco journal of the state sums up the matter of soils about as well as it can be done in a few lines:—

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[63] *Wisconsin Tobacco Reporter*, February 20, 1885.

[64] Tables showing acreages and prices will be found at the end of the chapter.

"There are three classes of soils recognized by the tobacco growers of Wisconsin. First, the calcareous sandy; second, clayey soils, light and dark, and third, prairie soils. The first produces a plant that matures a week or so earlier than the others; the leaf is apt to be light in color, elastic, thin, and silky. On quite sandy soil the leaves often grow rough, lack tenacity and very often [are] devoid of the main essential, gum or finish, as it [is] more commonly called. Clay soils varying from light to heavy grow a good quality when not too heavy, and well drained. The timber growth of this soil with a hazel undergrowth, after the second or third crop, will produce the very finest quality of leaf grown in the state. On heavy clay the tobacco seems inclined to grow too thick and coarse. The third class of soils, prairie, produces by far the greatest proportion of Wisconsin leaf. It is naturally rich, deep and black, and when well drained, as most of it is, the very best results are obtained. . . . The soil lies loose and requires less cultivating than clay soils and is less liable to wash. The largest yields per acre are obtained from prairie soils."[65]

"A rich sandy loam is probably the best, and as color is something of an index to quality, a soil that is of a brown or grayish cast is to be preferred. But whatever the color or quality of the soil, if it is thin and lies upon a cold subsoil which is saturated with water until late in the season it is useless for tobacco, for the plant will not grow with a chill at its roots."[66] This brings out the fact that tobacco land cannot be chosen by a novice, and that even the best of judges depend more upon experiment than upon any preconceived notions. It would seem to the writer after an extended trip through the tobacco district that the above observations as to the color of the soil are hardly warranted, and that more stress might be laid on the excellence of the "sandy calcareous" soil.

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[65] *Wisconsin Tobacco Reporter*, March 13, 1885.

The different classes of soils here enumerated are not mutually exclusive, for some of the prairie is also of a calcareous nature, and when this happens to be the case it no doubt constitutes the choicest of tobacco land. Within the limestone area of Wisconsin a more specific classification of tobacco soils can be made. Of the four principal limestone soils, two are used for tobacco growing: the Trenton, and the Lower Magnesian. These soils have more friable loam than is found in the higher and more rugged Galena limestone and are better drained and richer than the Niagara limestone. Neither the Potsdam nor the St. Peters sandstone districts have become important in tobacco production.

### ROTATION AND FERTILIZATION.

Shall tobacco be raised for a long number of years on the same ground or not, is a question that growers are still asking rather than answering. So far as practice goes there cannot be said to be at present any regular system of rotation. Tobacco land requires so much manure, and the manure used is of such a crude kind that it would be folly to attempt the preparation of a new tobacco plot every year or two. It is no small undertaking to get a piece of ground ready for tobacco, as can be easily understood by any one who comprehends the high state of tilth and fertility to which it must be brought. Tobacco of good quality can be raised on the same land year after year, and the cumulative effect of the manure makes it possible to produce a given quantity with less expense than where a new piece is taken each season. The amount of manure used varies greatly, but it is safe to say that very few farmers who grow tobacco put fertilizer on any other field, and for the most part, they "buy, borrow, and steal" every available load for miles around. A wagon load is a very indefinite quantity but it is usually estimated that somewhere from twenty-five to a hundred loads must be put on each acre each year. Thus it often happens that the cash expenditure for manure is ten, twenty, or thirty dollars per acre, while the labor of getting and applying it would amount to an equal or greater sum. Commercial fertilizers have not been used in any important quantities, though their qualities and cost are often a subject of debate. Wood ashes are always in demand, as it has been found that they have a good effect when mixed with other fertilizer. The value of ashes lies, of course, in the potash which they furnish and this is of consequence in growing a crop which produces a great quantity of leaf. The same principle explains the preference of tobacco growers for horse manure, it being rich in phosphates which are also needed in growing a leaf crop. The result of this heavy fertilization is that the soil becomes surfeited with nitrates, by far the most expensive plant food, yet these ingredients in excess usually are unfavorable to grain or grass. Another important reason for keeping tobacco on the same ground year after year is the freedom from weeds of a piece of land where it has so long been sure death for a weed to show its head. In many old tobacco fields the plowing and other cultivation done in the spring and again in the late fall keep the weeds so thoroughly subdued that little trouble is experienced during the short growing season of mid-summer.

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[66] *Wisconsin Tobacco Reporter*, May 13, 1892.

For a long time it was believed that no system of rotation was needed and even yet an occasional field may be found where tobacco has been raised continuously for fifteen or twenty years, and very many of them where no break has been made in its tenure for a decade. But in general it may be said that six or eight years is as long as it is kept on a single plot, and since few growers have been in the business longer than the extent of two such periods there can be little said of the tendency to turn a piece of land back into a tobacco field after it has once been changed to something else.

It is within the past ten years that the question of rotation has come to be seriously considered and then only in a tentative way. Occasionally a tobacco grower asserts that proof is available to show that more rotation will result in better crops. "Instead of planting the old fields again try a fresh field. If the grower has not a piece of cleared woodland, try the pasture lot or any rich land that has never before been into tobacco. The most satisfactory results, however, have been obtained from woodlands that have been cleared and the virgin soil has yielded some beautiful tobacco. It is the fresh soil that gives the open grain leaf, so much in demand at the present time."[67] Yet as late as May 13, 1892, the same writer had given advice the very opposite of this: "Equally fine crops have been grown on land upon which tobacco has been raised after tobacco for a series of years, and if you have a small piece of land such as is described above,[68] better results will be obtained by keeping it in tobacco year after year, fertilizing it highly, than to change."

Almost without exception corn is the crop to succeed tobacco, and unless it be in very dry years the yield is remarkably large. The abnormal amount of nitrogen in the soil is taken care of by the corn and there is not the danger of an excessive growth of leaf and stalk, which would almost certainly prove the ruin of a crop of small grain. Corn is usually planted on such ground several years in succession, and then clover or grass, though small grain may be introduced earlier in the series if the nitrates seem to be sufficiently reduced to warrant it.

With such a plethoric condition of an old tobacco field in mind, it is hard to convince any man who wants to grow tobacco that the crop is one which exhausts the soil. Almost without exception the growers claim that tobacco takes less from the soil than do potatoes, or corn, or wheat, arguing that the leaves draw their substance principally from the air. No doubt they have heard that leaves do get their carbon from the air, but carbon has little in common with nitrates, phosphates, and potassium compounds, and the man who can show that these substances are taken from the air directly by tobacco will be entitled to a rare medal. A few comparisons tell the story:

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[67] Wisconsin *Tobacco Reporter*, March 13, 1896. More testimony, March 20 and 27; also same for July 6, 1894.

[68] See quotation of same date on page 97f.

| ARTICLES. | CONTAINING PER CENT. OF: | | |
|---|---|---|---|
| | Nitrogen. | Phosphoric Acid. | Potash. |
| Meat | 2.0 | 1.2 | 0.2 |
| Cheese | 4.0 | 0.3 | 0.5 |
| Butter* | trace. | .......... | .......... |
| Potatoes | 0.25 | 0.18 | 0.5 |
| Grain | 1.75 | 0.8 | 0.5 |
| Tobacco | 4.53 | 0.415 | 5.594 |

*It takes bad butter to contain more than one-half per cent. of "nitrogenous matter," and this will have a very small percentage of nitrates. At the Wisconsin Experiment Station it has been estimated that five cents' worth of fertilizer is lost in the butter made from one cow in a year.

No one denies that raising grain year after year upon a farm will eventually reduce its fertility, even cheese has the same tendency, while butter has the least to answer for in that regard of any important farm product. There is more plant food taken from the farm in one ton of tobacco than in a hundred tons of butter, or, there is as much plant food taken from a single acre of tobacco in a year as will be carried off in all the butter that can be produced on the largest farm of Dane county.

It may as well be acknowledged that tobacco is a crop that keeps up a continual drain on the soil, and facing this proposition, consider whether or not it pays. The fact that the soil in the tobacco district is as rich, or richer, than in other parts of the state is not a pertinent argument. It is due to two causes: First, the soil in this district is the best in the state; second, the tobacco growers have exerted themselves to the utmost to keep it up to a high standard; they have utilized the available fertilizers to an extent unknown in other sections. But the test is one that cannot be made in a few years, and much more intelligent judgment can be passed on the matter after the duration of tobacco culture can be reckoned in quarter-century periods than now when it is a matter of only a fraction of that time. From the experience of the old tobacco states but one conclusion can be reached: Tobacco is an exceedingly exhausting crop, and the question of keeping up the fertility of the soil is an ever-present problem.

After all, the area planted to tobacco is small; in Dane county it is only about ten per cent. of the acreage once sown to wheat, and when the whole state is considered it drops to a small fraction indeed. In the towns where the most is raised the ratio to the whole area has never equalled one to ten; yet the most enthusiastic tobacco men are continually advising the grower to plant less, and not more. A prominent tobacco dealer of Stoughton who was for years engaged in growing tobacco on his own land estimates that five acres is as much as can profitably be grown on an eighty-acre farm. This would allow but 1,440 acres in a town were it equally distributed over the entire extent, but such a distribution can never be made, and in order to reach that amount in the aggregate many eighty-acre farms produce twenty or more acres each year. In 1893, with an acreage very much less than at present, and with prices almost as good, our tobacco editor, so frequently quoted, is eloquent in his appeal to his constituents to go into dairying as a means of keeping up the fertility of the tobacco fields, especially as an antidote to over-production, against which, as an imminent catastrophe, he forever warns them.[69]

### METHOD OF CULTIVATION AND PREPARATION FOR MARKET.[70]

In the first place the ground must be in process of preparation some months in advance. A few years ago it was customary to plow once in the fall and twice in the spring, but at present one plowing is considered sufficient, and this is done but a short time before planting. If tobacco has been raised on the land the previous year some mode of cultivation to prevent a second growth is desirable, and a disc harrow is a satisfactory tool for the work. Manure is spread upon the ground any time during the fall, winter, or spring. Occasionally a top dressing is applied after the ground is plowed, but does not seem a very popular method. One of the most important considerations of the whole process of tobacco growing is to have the ground in good shape before the crop is planted. It must be mellow and warm.

The seed bed is the next care, and much depends upon the skill with which it is prepared and tended. Much theorizing and experimentation have been done in this connection, but in a general way it may be said that the best results are obtained from an outdoor bed made in some sheltered spot as soon as the weather will permit in the spring. It was at one time thought of great consequence to burn some brush on the bed in order to destroy weed seed and animal life in the soil, but this is practiced very much less of late. As early as the danger of hard freezing is past the seed, which has already been sprouted, is sown in the bed, and canvas is stretched over it as a protection against wind and frost. The seed used should be entirely free from weed seed, as all weeds must with scrupulous care be kept out, and it is difficut to pull any great number of them without injuring the small and tender tobacco plants. When the little plants are about two inches high the cloth covering is taken off and they become toughened somewhat by exposure to the sun and wind. It is of great importance to have them ready for setting at the first moment the weather seems to permit, which is usually during the first half of June; they must be large enough to handle and if they are kept in the bed long after the proper size—from three to five inches in height—is reached they lose rapidly in vigor.

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[69] *Wisconsin Tobacco Reporter*, December 15, 1893.

[70] A careful account of this is given in the Tenth Census Report, but great changes have taken place since that time.

Transplanting has been greatly simplified by the invention of the machine for doing the work. As in the case of the grain binder, this machine came at a time when there was great demand for such a device on account of the increased quantity produced, the high price paid for the product, and the extreme difficulty of getting the requisite amount of desirable help at the critical moment. The first trial recorded in Wisconsin took place at Janesville in 1885, the machine being the invention of Mr. Maurice Smith of Farley, Iowa.[71] Although many improvements have since been made, the description of this first machine gives a good idea of those now in use:—

"The machine proper is a carriage having attached in front a roller, and just back of that two blades, which together make a small furrow in the ground and throw the earth to one side. Two boys sitting just behind these blades drop the plants about thirty inches apart, with the roots lying in this furrow. A scraper under the boys throws loose dirt over the roots, and a wheel on the back of the truck presses down the loose dirt. The attachment for watering the plant is a box set on the axle, a hose leading from the box to the ground, and a valve opened and closed by an eccentric on one of the large wheels. It works very well, and instead of soaking the surface, waters only at the root of the plant. With boys accustomed to feeding, the plants should be set very well, and it is said that a man and two boys, with this machine, can set as many as eight or ten can by hand. The great beauty of the setter, however, lies in the fact that when the farmer has his field ready, he can go right ahead and put out the tobacco, not having to wait for rain. With this alone to recommend it, if some automatic feed can be arranged, the invention will be an invaluable one for the grower.—*Janesville Gazette.*"[72]

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[71] Another transplanter much in use was invented by Mr. F. A. Bemis of Lodi, Wisconsin.

The automatic feed has not yet been provided and the tobacco planters seem well satisfied with the machine as it is. One of the most gratifying features of the transplanter is the manner in which the watering is done; the water is applied at the roots of the plant and the fine dry soil, gently pressed down by the wheel at the rear, seldom results in "puddling," which so often gave trouble when the setting and watering were done by hand.

A writer in 1881 called the hoe "the most important implement in the tobacco field," for at that time the greater part of the cultivation was done in that primitive way, but by 1885 the hand hoe was almost entirely put out of business by the horse hoe. At present the usual practice is to go over the field once by hand to cut out the few weeds missed by the cultivator, but this is a light task. The horse cultivator is put at work almost as soon as the plants are set and there is little chance of using it too often up to the time the leaves are in danger of injury. Tobacco grows rapidly, sometimes being ready to harvest in less than two months after planting, and there is little time to be lost, for unless it be kept moving along at a swift rate it is likely to be caught by the frost.

Topping is done just as the blossom is forming, and suckering and worming keep the farmer busy till time for harvest.

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[72] *Wisconsin Tobacco Reporter,* July 24, 1885.

Pruning, i. e., removing the lower leaves during the growing period, has been discontinued. Harvesting is done rapidly as there are but a few days from the time the crop is ready until it begins to lose in quality. All members of the family work early and late until the last load is in the shed. The women and girls do the cutting, the small children the piling, the boys string it on lath, and the men haul it to the shed, the whole process being done in a single day when the weather is favorable.

It is after the crop is in the shed that the real trouble begins.[73] Pole-rot, shed-burn, strutting, etc., etc., keep the owner on the anxious seat till at last the stripping and sorting is done, the crop sold, and the money in his pocket. The cost of raising is estimated roughly at sixty or eighty dollars per acre.

## VARIETY AND QUALITY.

The variety of tobacco grown is almost entirely the Spanish, the "seed-leaf" going out of favor with the decline in price during the '80's, since which time very little of it has been planted.

Wisconsin growers have never been able to produce as fine an article as is grown in the eastern states. In 1879, New England tobacco graded fifty per cent. wrappers, Wisconsin less than thirty per cent.; in 1889 the percentages[74] were about the same, and they have not changed materially since. Nor is this all; the Wisconsin wrappers invariably sell at half, or less, than wrappers from Connecticut; in fact, a considerable share of "Wisconsin wrappers" are not wrappers at all but sell as "binders."

## THE TARIFF ON TOBACCO.

Whether or not the tobacco industry is still an infant, it has required as tender nursing by the politician as by the farmer, and shows no symptoms of being able to stand alone. It was the tariff of war times that gave the industry its first importance, and with all the discussion as to seed, and sheds, and land, and labor, the tariff has continued to be the *sine qua non* of tobacco culture. In

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[73] The shed is usually twenty-six feet wide and sixteen feet high. Every fourth board is hung on hinges for ventilation. A shed of this height holds four tiers besides those hung in the gable; twenty to twenty-four feet in length holds the crop from one acre, and costs about one hundred dollars.

[74] *Wisconsin Tobacco Reporter*, May 22, 1891.

1882 petitions were sent to congress asking that the tariff on Sumatra leaf be raised from thirty-five cents to a dollar a pound. In 1884 it was predicted that, in case the proposed reduction of twenty per cent. on import duty should pass congress, tobacco growing in Wisconsin would become a memory.[75] In 1890 the Sumatra wrappers were taxed two dollars a pound and the Wisconsin growers complained that it had not been set at two-fifty or two-seventy-five in order to protect them against the product of slave labor of the Orient. A small cut in tariff rates under the Wilson Act, in conjunction with the powerful stimulus to overproduction just preceding, worked havoc with prices, and a new application of the beneficent remedy was demanded. The Milwaukee *Sentinel* in 1894, commenting on the depression in the tobacco trade, took occasion to remark that dealers and growers were principally Scandinavians and Americans, with a small sprinkling of Germans and Irish, but they were alike in one respect—all Republicans—and adds that it would be strange were they anything else, for the tobacco industry would soon become a thing unknown without protective tariff. A little before this a tobacco grower in addressing a Farmers' Institute remarks that "if the present policy is continued it will be only a short time till the bottom is completely knocked out, and with the present free trade tendencies of the times . . . the prospects of the tobacco growers are not overloaded with rainbow tints." But during the Spanish War the growers had conscientious scruples against letting "the constitution follow the flag," and in a memorial to congress protesting against annexation of any islands, solemnly resolved that: "a government can only derive its just powers from the consent of the governed." The last note in this politico-economic refrain was sounded at a convention at Janesville, October 31, 1901, where it was resolved: "That it is expedient for the tobacco growers of the state of Wisconsin to form a State Association, whose head-quarters shall be at Madison or Edgerton, and whose primary object shall be to unite with other similar organizations in protecting the leaf industry of the state."[76]

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[75] *Wisconsin Tobacco Reporter*, October 17, 1884.

[76] *Wisconsin Tobacco Reporter*, November 1, 1901.

### INFLUENCE OF TOBACCO CULTURE ON VALUE OF LAND.

It is believed by many that the high price of land in Dane and neighboring counties is chiefly owing to the tobacco industry. There is an element of truth in this, but it is far from being all truth. Between 1880 and 1885, the period when tobacco culture made its greatest gains, the price of land did make remarkable advances. On section 20, Christiana, a farm which sold near the beginning of this period for forty dollars an acre was later divided up into smaller lots, and with no improvements, some of the forties sold at a hundred dollars an acre. Numerous instances might be given from which, if taken alone, it would appear that tobacco was responsible for about all the advance in land values for the past twenty years. But it may also be shown that worn out wheat farms in the southwestern part of the country sold as low as ten dollars in the '70's and came up to twenty, forty, and fifty, within the next twenty years when turned into dairy farms.[77] Moreover, the average value of land in Windsor and Bristol is about equal to that of Albion and Christiana,[78] yet the former towns have been insignificant in tobacco production. Again, it is instructive to notice the value of land at some distance away; four hundred miles directly west of Dane county, in the northwestern part of Iowa, ordinary farms are selling as high as seventy-five dollars per acre, and it is a half-day's ride on a train to the nearest patch of tobacco. If all these prices are even indirectly the result of tobacco growing the western farmer has no cause to complain of the tobacco tariff. The fact of the matter is that a complexity of causes has resulted in the rise in price.

As to the higher price given for choice tobacco land there can be no dispute, but where the land is not already in shape for planting, the premium paid for it is not great. It takes very little figuring to see that a man wishing to go into tobacco culture can afford to pay for the superior richness of the soil which repeated applications of manure afford. A twenty-acre farm with even modest improvements in the way of buildings, and with half, or more, of the land brought up to the highest point of fertility can not be fairly compared in price per acre with a dairy farm ten times its size. In the one case the selling price is half contained in the improvements, in the other the improvements make a much smaller percentage. The possibility of a large income from a few acres has induced many foreigners to pay a hundred dollars an acre for small pieces of land, thus getting a home with a small absolute indebtedness.

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[77] As an instance of this a farm in the town of Vermont, Section 23, sold for eleven dollars per acre in 1873, and is easily worthy fifty dollars now.

[78] See chapter on Land Values.

### NORWEGIANS AS TOBACCO GROWERS.

Although in nowise responsible for the introduction of tobacco culture, the Norwegians are the main growers and have been almost from the beginning. It so happened that these people settled in Christiana and Albion at a very early day, and during the years of the great Norwegian immigration there were always great numbers of new arrivals, with large families and no money, keenly on the lookout for an opportunity to earn a living and get homes of their own. Here was a rare chance. They could buy a small piece of land on time, or become "sharemen"[79] and plant some one else's land to tobacco, the landlord furnishing all the capital; the tenant doing all the work; and each getting half the crop when ready for the market. This was an especially good thing, in view of the fact that a large part of the labor required in growing tobacco is such as can be done by women and children. The Norwegians knew nothing about tobacco culture before coming here, but they soon became experts, and the same reasons that turned their attention in this direction at first have kept them in the business. Their standard of life was frugal; few comforts, fewer luxuries, rigid economy, and hard work have brought many of them up from poor sharemen to owners of hundreds of acres. The Americans who grow tobacco usually plant a few acres on a larger farm, while the small farms, which are the distinctive tobacco farms, are held by Scandinavians.

### APPEARANCE OF THE TOBACCO DISTRICT AS COMPARED WITH OTHER PARTS OF THE COUNTY.

In its general appearance the tobacco district is striking. It takes some persuasion to convince one who has ridden through other parts of the county toward the tobacco section that he is coming to land worth a quarter or a half more than that which he has been viewing.

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[79] This term seems to be peculiar to this locality.

In the dairy and general farming districts the houses are large, well painted, often as fine in appearance as average city residences, the barns have a capacious, substantial look, and the whole homestead gives the impression of prosperity and comfort. In the tobacco section the houses are little more than a story in height, and are often in poor repair; there can hardly be said to be any barns, and the omnipresent tobacco sheds are seldom painted or shingled. Nor is this all; the crops, other than tobacco, present rather a neglected aspect. At the time of my visit, when almost every acre of corn in other parts of the county was in the shock, and the fall plowing well under way, there was not a quarter of the corn in the tobacco district cut, and hardly a furrow of the stubble ground had been turned. This was as late as September 20th, and the corn was long past its best as a fodder crop, though the tobacco farmers expressed themselves in favor of late-cut corn. Mr. F. A. Coon of Edgerton writes of the tobacco crop: "It is a great monopolist of manure and attention. If any crop is neglected it is not the tobacco crop. That must be cultivated and fertilized even though the corn is wrapped in grass, or the hay crop suffers for want of cutting, . . . it is usually the petted crop." This testimony is from one of the strongest friends of the plant, yet it can be duplicated at pleasure, and any observer who does not happen to approve of the business will express the same sentiment in stronger terms. It is not denied that many men have become rich growing tobacco, but it is by no means self-evident that they have done better than their neighbors who have farmed on other lines; they, too, have grown rich, as wealth is counted among farmers. Often, side by side, two farmers have lived for twenty years, the one growing tobacco continuously, the other raising corn and cattle, and as they are both about to retire it is remarked that one is worth as much as the other and the opportunities have been equal. This proves very little either way, but it does seem to show that there are as great possibilities in ordinary farming and dairying as in the much-lauded tobacco farming.

The poor appearance of the tobacco district is partly explained by the system of renting land out in small tracts and putting up buildings merely good enough to answer the purpose. It is also urged that many of the tobacco growers began with nothing and cannot be expected to pay for such high-priced land and put on good improvements all within a few years. There is some truth in both of these arguments, but the fact remains that the other parts of the county have more of the appearance of permanent prosperity. A system of farming which encourages investment in land for the hopes of big returns and no work, as seems to be the case where land is held by a man living in town, and let out to sharemen, can hardly be commended from either an economic or a moral standpoint.

## ACREAGE AND PRICES.

For the following tables no minute accuracy is claimed. The acreage figures are taken from statistics given in the reports of the secretary of state; they were compiled from the assessors' books, made out in May of each year, and, therefore, based on estimates of what was intended to be planted. The census enumerators invariably find more acres than do the assessors, and this is hard to account for unless it be that there is less reserve on the part of the farmer in dealing with an officer whose duties are of a scientific nature and in no wise connected with taxation. No doubt there are many inaccuracies in the best of these figures, as tobacco fields are so often small and irregular and seldom accurately measured. There are still greater difficulties in getting representative prices. Each year there is some tobacco which sells for a cent or two a pound, and any attempt to average such extremes is useless. The prices given are for good grades, the highest prices are not quoted and the very lowest are not considered at all. For the years previous to 1870 the data are very meager; since that time price lists are abundant. The average given for 1862–1865 is an estimate made by a government statistician. However, the table is sufficiently accurate to show the general tendency of prices over the main tobacco period.

*Prices and Acreage of Tobacco in Dane County, 1840-1901.*

(Compiled from reports of assessors and census enumerators.)

| Year. | Price per pound. | Acreage. | Year. | Price per pound. | Acreage. |
|---|---|---|---|---|---|
| 1840 | $.12 | ...... | 1879 | $.065 | 4,331 |
| 1851 | .07 | ...... | 1880 | .085 | 6,240 |
| 1852 | .13 | ...... | 1881 | .105 | ...... |
| 1853 | .07 | 10 | 1882 | .14 | ...... |
| 1859 | ...... | 8,967* | 1883 | .18† | 6,220 |
| 1860 | .12 | ...... | 1884 | .17 | ...... |
| 1861 | ...... | ...... | 1885 | .15 | 12,167 |
| 1862 | .12 to .13 | ...... | 1886 | .08 | 6,500 |
| 1863 | | ...... | 1887 | .10 | 7,758 |
| 1864 | | ...... | 1888 | .11 | 9,361 |
| 1865 | | ...... | 1889 | .11 | 8,045 |
| 1866 | ...... | 86 | 1890 | .10 | 9,388 |
| 1867 | ...... | ...... | 1891 | .10 | 10,234 |
| 1868 | .18 | ...... | 1892 | .10 | 10,968 |
| 1869 | .125 | 229,568* | 1893 | .09 | 10,436 |
| 1870 | .175 | ...... | 1894 | .09 | 8,729 |
| 1871 | .06 | ...... | 1895 | .055 | 6,789 |
| 1872 | .06 | ...... | 1896 | .065 | 5,997 |
| 1873 | .06 | ...... | 1897 | .09 | 9,974 |
| 1874 | .05 | ...... | 1898 | .065 | 11,338 |
| 1875 | .035 | 1,929 | 1899 | .07 | 12,638 |
| 1876 | .065 | 1,454 | 1900 | .11 | 15,091 |
| 1877 | .075 | 2,459 | 1901 | .11 | 14,365‡ |
| 1878 | .075 | 2,044 | | | |

*Complete returns were not available for the early period of tobacco raising. These numbers represent the number of pounds produced in entire state. The acreage relates to Dane.

†A few sales were made at $.25.

‡This was the estimate made by assessors, but it is probably 40 per cent. too high, as much planting was prevented by the drought.

## CHAPTER IV.

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## THE DAIRY INDUSTRY.

As in most new countries, dairying in Wisconsin was slow in getting a start. The first American settlers almost invariably brought one or two cows with them and were thus more or less well supplied with milk and butter. The foreigners just as invariably brought no cows, and it was often some years before they were able to buy them. As a consequence butter was always scarce and usually dear throughout the first twenty years, unless it was for a few weeks during midsummer, when the weather would not permit the producer either to ship or hold it for a better market.

A glance at the prices paid[80] makes it clear that a single pound of marketable butter was often worth more in Madison than a bushel of wheat, yet with a small investment in cows it was entirely possible to turn the produce of an acre into seventy-five pounds of butter instead of eight or ten bushels of wheat, and the cash outlay for maintaining the dairy after once it was started was not equal to the expense of raising wheat. In spite of these possibilities, and they were thoroughly tested,[81] butter and cheese were shipped from other states to Wisconsin even as late as 1860, while for half or more of the farmers to buy butter, cheese, and even milk was so common as to excite no comment.[82] The usual answer to the query, why was this so, is that farmers were too poor to buy cows and build barns; they had no good place for making butter, and besides, butter could not well be shipped a thousand miles with the transportation facilities then available. Let us see: A cow was worth about twelve dollars in 1848 and hardly double that within ten years following. The plea that barns could not be provided was nonsense, yet some farmers argued that cows hardy enough to stand winter weather must be had before dairying would succeed. True there were not the best of opportunities for taking good care of butter during the hot weather, but cheese could be made instead, and that would stand shipping to the eastern market. During the cool part of the year butter could be handled without loss, and the cost of sending it from Milwaukee to New York was only about a cent a pound, that is from five to ten per cent. of its value, while wheat at a little less per pound for freight could not be carried to New York short of twenty to forty cents per bushel during a long period of years, and this was seldom less than a third of its value, sometimes indeed absorbing the whole.[83]

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[80] See table at the end of this chapter: prices of wheat at the end of the chapter on wheat.

[81] *Trans. State Agr'l Soc.*, I, 239: III, 50; Pat. Office Rept. *Agriculture*, 1852-53, 329.

[82] *Wisconsin State Journal*, August 22, 1857.

Of the few farmers who did go into dairying during the wheat period there seems to be not a single adverse report given; even with indifferent management a dairy at that time was bound to succeed. Occasionally a man kept an account of his receipts from sales of butter and cheese,[84] and though the amount produced was small these were the few farmers who were not in debt at the stores; they were the only ones who believed that tame grass and clover would succeed. During the summer months cheese was made at home, for there were no factories, and where one family had not milk enough for a cheese of respectable size, several neighbors would "change milk," one making a cheese one day and another the next, out of the combined supply. This may be called the germ of coöperative cheese factories. In this primitive way a fifteen-dollar cow on four acres of land worth from two to ten dollars per acre could be made to produce from twenty to forty dollars per year; not a bad percentage, even though the necessary labor, otherwise expended in futile efforts to raise wheat, had been reckoned at the outside figure.

These were the conditions up to 1860, and it cannot be said that they changed much during the war, although prices were high;

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[83] *Trans. State Agr'l Soc.*, III, 50.

[84] *Ibid.*, I, 133, 167.

but by 1870 the tide had turned, the census of that year showing the product of Dane county to be about a million and a quarter pounds of butter—a gain of 33 per cent. within a decade. There is no occasion to dwell upon the reasons for giving so much attention to dairying at that time: it was a mere turning from a dead industry to a live one, from a process which was fast sapping the soil of its remaining fertility to one which would slowly but surely replace the needed richness. From 1870 to 1880 prices were low and the increase in butter production was small.

With cheese a remarkable change had taken place. In 1870 the quantity of cheese was less than one twenty-eighth that of butter; in 1880 it was almost one-sixth. This gain was due to two principal causes: first, the relative price of cheese was high, and second, the Swiss people from Green county spread over into Dane and engaged in cheese making, since which time cheese has steadily taken a more important place. During the '70's cheese factories were established in nearly every town; there were two in Bristol, two in Dane, one in York, one in Blue Mounds, etc.; but by 1880, or soon after, the most of these were closed for want of patronage and the cheese and butter industries instead of running side by side in direct competition began to localize themselves with respect to physiographic areas. It may be shown that Wisconsin is a cheese-producing state because of climatic conditions; it may also be shown that social influences have resulted in localizing the industry, as in Green county, where the map is dotted with Swiss cheese factories; but neither nor both of these reasons can explain satisfactorily why there are thirty-nine cheese factories in the "driftless" area in the southwest part of Dane county and a single one in all the remainder. True this section is near to Green county and the Swiss gradually spread to the north, or at least furnished cheese makers whenever there was a demand for them, but they were equally near neighbors to the southeastern part of the county where the single cheese factory is found. The explanation seems briefly to be this: There is more money in making cheese, especially Swiss or Limburger, than in butter. But on the other hand, the whey is worth almost nothing, while skimmed milk and butter-milk are excellent feed for pigs and calves. In the hilly districts corn cannot be raised in large quantities, hence it is useless to attempt raising large numbers of hogs. With these facts before him the farmer in the hilly region sees a larger profit in making cheese, and the farmer in the better corn district refuses to patronize a cheese factory at all, and sends his milk to a butter factory. That this is not a fanciful statement of the case may be seen in the following table made from the assessors' returns for 1894.

| DAIRY TOWNS. | No. of hogs. | No. of cows. | Bu. of corn. | Lbs. of butter. | Lbs. of cheese. |
|---|---|---|---|---|---|
| Blue Mounds | 957 | 1,509 | 43,400 | 166,500 | 260,000 |
| Vermont | 406 | 1,299 | 24,200 | 30,300 | 62,800 |
| Perry | 738 | 2,740 | 25,700 | 18,000 | 400,000* |
| Primrose | 987 | 895 | 57,000 | 8,000 | 346,900 |
| Total | 3,088 | 6,443 | 150,300 | 222,800 | 1,069,700 |
| **MIXED FARMING TOWNS.** | | | | | |
| Springfield | 1,278 | 762 | 96,500 | 49,000 | ………… |
| Bristol | 1,229 | 1,116 | 108,600 | 148,000 | ………… |
| Fitchburg | 1,510 | 802 | 82,973 | 39,000 | 4,500 |
| Rutland | 1,121 | 952 | 136,700 | 131,000 | ………… |
| Total | 5,145 | 3,632 | 424,773 | 367,000 | 4,500 |

In these representative towns we find that in the dairy group there are not half as many hogs as cows; in the other group there are forty per cent. more. In the dairy group there is a third as much corn as in the other, and the amount of butter is less than two-thirds that of the mixed farming group, while in the relative amounts of cheese made there is no comparison. The conclusion is that growing hogs and corn is, other things being equal, in the estimation of the farmer, the more profitable industry; but where corn cannot advantageously be raised the number of hogs will be small, and milk not being needed for feed, cheese will crowd butter making out. This analysis would seem to hold good in explaining why Wisconsin is a cheese-making state and almost no cheese is made in Iowa, which ranks high in butter production; but allowance would also need to be made for the more favorable climate for cheese making in Wisconsin. And in general it would be necessary to take the three factors, climatic, social, economic, into consideration before making dogmatic statements as to why any particular dairy section makes, or does not make, cheese instead of butter.

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*This item was wanting, but the estimate is certainly a low one.

The profits of dairying are by no means small. The names can be furnished of men who have gone in debt for high-priced land and paid for it within a few years, getting almost the entire sum from the sale of butter or cheese. One dairy of thirty cows brought in twenty-four hundred dollars in the two years, 1899 and 1900. Others can be cited which have done equally well. The labor involved is of course a big item but here as in tobacco growing the labor is of a cheap kind and is nearly all done by the family. This is an important point. It has never been found profitable to hire much help on a dairy farm; the main part of the work is milking and taking milk to the factory, which is done morning and evening, and the amount of general farming to be done on a dairy farm does not furnish employment for a large force of men. It is safe to say that the major part of this industry is carried on without any hired help at all. Dairying is in the hands of the men with large families—Norwegians, Germans, Irish, and to a less extent Americans. Hardly a dairy can be found, that is, a large one, managed by a man who must depend on doing all the work himself or hiring it done; such a farmer prefers raising sheep, hogs, horses; and once in a while a man whose interest has long been in dairying, finding himself left to do his own work, continues to raise cows, but sells them to his neighbors. There is little to be said against this custom of requiring children to do the work of the dairy; the work is not excessively disagreeable; it is not severe or long continued; it does not interfere with their school work, or take them away from home, or lead to unwholesome surroundings or associations—almost every count of which must be given an opposite answer in regard to tobacco culture.

There are several reasons why dairying has gained so much importance during the past ten years. Instead of the former great fluctuation in the price of butter, it being down below cost of production in the summer and correspondingly high in winter, the price for the past decade has been remarkably uniform for the different months of the year. Winter dairying is common since the obstacles in its way have been overcome. Factory-made butter is of a higher grade than that made on the farm. And furthermore it is possible to put butter in cold storage and keep it several months without any perceptible change in quality, and the improved equipments in transportation enable it to go to the best market however distant. The whole general average of excellence in dairy cows has been materially raised by processes which make it easy to pay for milk according to the butter it will make, as with the "Babcock Test," and the inefficient and untidy dairyman is still further discouraged by the system of state dairy and creamery inspection in vogue in almost all dairy sections. Expense of manufacture has been, and is still being, greatly reduced by the concentration of the business. The good results to be gained by the system of establishing skimming stations at convenient intervals over the country or by using hand separators, and shipping the cream to some common center where it can be handled by experts and made into gilt-edge butter at the lowest possible cost, is a problem not fully worked out. But there has certainly been an "industrial revolution" so far as dairying is concerned, and it is still in progress. Moreover, dairying is self-sustaining; there is no constant nightmare of over-production, or fear that the addition of a new island to the flag, or the change in the political complexion of congress will pauperize those dependent on its prosperity. To the anxiety of tobacco growers over tariff, and frost, and hail, and drought, the dairyman is almost a stranger.

As to the details of managing a dairy farm little need be said to anyone familiar with dairying in any part of the upper Mississippi Valley. With the exception of a comparatively small number of dairies kept primarily for the sale of milk by the quart, they are all of a plain business-like sort. Little fancy stock is kept, and little fancy or unusual feed used. The cows are a motley lot in color and breed, there seldom being a herd showing much uniformity. In the mixed farming sections the Shorthorns are the most common; in the dairy sections there are more Jerseys, Holsteins, Guernseys, and what not, each cow being chosen for individual excellence, primarily for dairy purposes, yet with the secondary object of producing a fair amount of beef; as to the ratio in which these qualities should be combined there are about as many opinions as farmers. The feed of the dairy cow is grass in summer; no soiling is practiced, though a very small feed of meal is sometimes given at milking time. Almost invariably green corn is fed in the fall as soon as it is well grown or as soon as the pasture begins to fail; this fodder also constitutes one of the standard feeds for winter and is usually cured in the shock and fed in an open yard, though occasionally it is cut or shredded and fed in a manger. Clover and timothy constitute the principal hay, which, together with corn and oats, sometimes ground, but as often whole, and possibly a few pumpkins or turnips, make up the ration.

Probably dairying has worked a greater change in the people engaged in it than has any other kind of agriculture in the state. During the wheat period it was customary for the German to get up early, harness his team, eat a light breakfast, and at six, or six-thirty o'clock, go to the field, where in a slow but steady and painstaking way he would plod along at his work, stop about ten for lunch of brown bread with ham or sausage and a few cups of coffee, take an hour or a little more for his dinner, repeat the program in the afternoon, reaching the house a little before dusk even in the longest days, and after taking the harness from his horses, and eating supper, go to bed; the "chores" were invariably left to his *Frau*. This routine in a little less methodical manner was carried out by other foreigners and even by many Americans, though the latter always worked fewer hours and at a brisker pace. These various nationalities have all gone into dairying, and their habits of work have undergone a transformation. They still must arise early in the morning but the first duty is to get the milk started to the factory and in this the boys and girls have a part. Breakfast comes at a later hour and by the time the teams are started to the field the sun is high. The leisurely manner of the farmer of a generation ago will not do now, and with a fast-moving team, with little lingering at the ends of the field, with the lunches omitted, the Germans as well as the rest have adopted the genuine American hustle.

Dairying is here to stay. If it does not offer as many possibilities for sudden wealth as does tobacco, it is less of a lottery, and has fewer failures charged to its account. It will go on making the soil richer for an indefinite number of years. It is to the ameliorating effects of dairying that tobacco farming owes its success and permanence, and it is fast coming into favor as a supplement to that industry.[85] It is, however, the opinion of both dairymen and real-estate dealers, that the price of land in some parts of the county has gone beyond the point where it will be a profitable investment for dairy purposes. To make any net gain at dairying on land at a hundred dollars an acre, with interest at five per cent., requires keener business ability than most farmers possess; and these conditions are likely to continue while there are such limitless possibilities for dairying to spread over northern Wisconsin and other similar districts.

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[85] *Wisconsin Tobacco Reporter*, December 15, 1893.

### TABLE SHOWING PRICE OF BUTTER.

| | |
|---|---|
| 1836 | 45 to 50c |
| 1840 to 1850—Reported by old settlers to have been worth 3 to 5 cents in summer and 25 cents in winter. | 10 to 12½c |
| 1851 | 20 to 25c |
| 1855 | 9 to 15c |
| 1860 | 15 to 40c |
| 1865 | 25 to 38c |
| 1870 | 16 to 25c |
| 1875 | 18 to 25c |
| 1880 | 15 to 22c |
| 1885 | 10 to 16c |
| 1888 | 15 to 29c |
| 1889 | 14 to 28c |
| 1890 | 17 to 30c |
| 1891 | 17 to 31c |
| 1892 | 20 to 33c |
| 1893 | 16 to 25c |
| 1894 | 17 to 25c |
| 1895 | 15 to 24c |
| 1896 | 14 to 23c |
| 1897 | 15 to 22c |
| 1898 | 16 to 27c |
| 1899 | 18 to 29c |
| 1900 | 18 to 25c |
| 1901 | 19 to 29c |
| 1902 | 20 to 29c |
| 1903 | |

*Amounts produced:*

| | Butter. | Cheese. |
|---|---|---|
| 1850 | 294,938* | ........ |
| 1857 | 509,150 | 28,060 |
| 1860 | 890,200 | 72,600 |
| 1865 | 645,000 | 28,605 |
| 1870 | 1,242,900 | 43,400 |
| 1880 | 1,630,000 | 262,000 |
| 1885 | 1,439,000 | 301,000 |
| 1890 | 2,206,000 | 1,063,000 |
| 1895 | 3,288,000 | 1,449,000 |
| 1899 | 4,440,000 | 2,066,000 |

* Butter and cheese.

# CHAPTER V.

## SIZE OF FARMS AND ESTATES.

In studying the size of estates[86] for an early period either for the state of Wisconsin or Dane county, it is necessary to notice several chapters of contemporaneous history. To begin with, the movement of settlers to this district began at a time when wild-cat banking was at its height, when paper money was as easily made as paper cities, and both were offered on long time, easy terms, and small payments. Several of these paper towns contended for the location of the capital of the new territory, which had been cut off from Michigan in 1836, and within a few weeks it was located at the Four Lakes. This was by no means an accident, for although hardly a man on the territorial council had seen the spot, or even knew where it was, there were at least two men who knew very definitely—these were the governor of Michigan and the man destined to be the first governor of Wisconsin. Their powers of persuasion exceeded that of any of the rival aspirants, each of whom had the best possible site for the city which was variously located from Des Moines, Iowa, to Green Bay, Wisconsin. Be that as it may, the location of the capital city at Madison had a direct influence on the adjacent country, and during the same year a large amount of land was purchased, proximity to the new city being the main desideratum. The size of the purchases ranged all the way from single forties taken by men who carried the chain in surveying parties, to half a dozen sections gobbled up by eastern politicians, prominent among whom was Daniel Webster, who for a time owned the land on which Stoughton now stands. The average size of these purchases was somewhat above six hundred acres.

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[86] The term estate is used to mean the amount of land owned by one person. On the size of the estates, which is surely an exceedingly important item, involving as it does the subdivision or concentration as the case may be, in land ownership, the censuses are uniformly silent. In the report of the eleventh census (see "Agriculture by Irrigation," p. 1) this matter is disposed of by the naive remark that "a person can have but one farm unless the estate is so large as to require a resident farmer upon each tract."

### SIZE OF FARMS ACCORDING TO CENSUS REPORTS.

We will pass over a considerable number of years including the panic of 1837 and the period of slow recovery which followed, since they furnish nothing of importance to our subject. Sales practically ceased for a year or so; many of the large estates changed hands frequently and by 1850 few of them remained. During the early '50's the influx of Germans and Norwegians directly from Europe, having but little ready cash, resulted in a multitude of small purchases, and in 1854 the average purchase was ninety-two ocres; this was raised very materially above what it otherwise would have been by several extensive purchases by speculating companies. There are no figures available, but a study of the old entry-book, the various plats for the '60's, together with the manuscript census returns for 1870 show that these settlers added to their original homesteads an occasional forty or eighty. This is well indicated in the census reports, it appearing that the farms below fifty acres decreased in number about sixteen per cent., while those above that increased nearly sixty per cent. Again, in 1860 the farms between twenty and fifty acres not only ranked first in numbers but comprised by far the largest aggregate acreage, while in 1870 those from fifty to one hundred acres exceeded the smaller class in the aggregate area and also outnumbered them.

The census returns for 1880 and 1890 throw very little additional light on the question under consideration; there is, however, a steady falling off of the number of farms below one hundred acres[87] and a corresponding gain of those above that figure from 1870 to 1890. So far as the small farms are concerned this showing is no doubt correct and not wholly without meaning, but not so much can be said of the larger ones. Here we have a group from one to five hundred acres inclusive, and in 1890 nearly three-fifths of the farms in Dane county fell within these limits, but it signifies next to nothing beyond the bare fact that farms had on the average increased in size. Within these wide limits are comprised the hundred-acre farms which are by no means few, the hundred-twenty-acre, the hundred-sixty, the two-hundred, and the two-hundred-forty acre farms all of which are commonly met with, not to mention the half-sections which appear in every township. All of these are dumped promiscuously together as though it were of but slight consequence what changes happened so long as the acreage remained above the hundred mark, yet the average for the year 1890 was one hundred twenty-four acres; thus the major part of all farms are, so far as classification is concerned, within this wholesale grouping. However, there are a few above and below these limits that reveal some general tendencies. For example, there were four farms above five hundred acres in 1860; in 1870 these had disappeared; in 1880 there were forty-three of the size mentioned, while in 1890 they had dropped to twenty-eight. Turning to the other end of the list we find the number of farms of twenty acres and less decreasing until 1880 and then increasing some twenty-five per cent. by 1890. These results are not beyond explanation. The small farms were not suitable to wheat culture and especially when that crop began to fail these little farmers got rid of their few acres as best they could and went farther west or gave up farming altogether. With the advent of the tobacco industry the small farm was given a new lease of life, and odd scraps, or even portions of large farms were brought up and turned into tobacco farms. It is not so easy to speak definitely regarding the unusually large tracts.

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[87] See note at beginning of this chapter. It is impossible to discuss this subject without some comparison with the census returns, but it must not be forgotten that *estate* and *farm* are two distinct things, although they do not in the towns worked out minutely (see below), differ widely in number and are for the most part identical.

As stated, there were four farms of over five hundred acres in 1860. The number is small at most, and part of these consisted of poor, undesirable land which had hardly advanced beyond government price. The lack of any further tendency toward concentration in ownership is of more consequence than the mere disappearance of these four large pieces by 1870.

As explained in another connection the value of land failed to respond to the general rise in prices during the period of greenback inflation, and hence was not a favorite object of investment, railroad bonds and the like taking precedence. The soldiers were inclined to do business on a larger scale than they had been contented with before, and this tendency was manifested in at least two lines; they either sold their small farms and went west or they bought out their neighbors and so increased their acres. These causes together with financial changes resulted in a rise in the price of land finally, and by 1880 the large farms of over five hundred acres had risen to forty-three, the greatest number since the early days of speculation. The average size of farms for the county at this date was one hundred twenty-eight acres. The falling off of large farms during the period since 1880 will easily come within the more detailed discussion of the different parts of the county.

### SIZE OF ESTATES IN A FEW REPRESENTATIVE TOWNS.

The data on which the following comparisons are based are taken from the manuscript census reports of 1870, from the Dane County Atlas, by Foote & Company, of 1890, and the Atlas by L. W. Gay & Company, 1899. These are fortunate dates, the first being about on the dividing line between the wheat period and the time of diversified farming, and the atlases dropping in so closely to the census dates since that time.[88]

Eight towns chosen with reference to physiographic and social conditions have been considered separately at these dates: Albion and Christiana in the southeastern, Vermont and Perry in the southwestern part of the county, the others variously located. The estates are divided into seven groups, which happens to be the same number used for farms in the census, the main difference being the more minute classification of the estates of over one hundred acres.

The towns of Albion and Christiana lie almost wholly within the rich Trenton limestone area which has proved to be the choicest tobacco district of the state. Vermont and Perry are in the "driftless" portion of the county, are rough and broken, and in consequence have gradually turned to dairying. Vienna and

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[88] The federal census reports do not give town returns, and the manuscripts are not to be had subsequently to 1870 because of the mortgage statistics and kindred matter which is thought to require secrecy. The state census reports contribute nothing of value on the subject.

Fitchburg are fairly representative of the mixed-farming district. York was taken because of its wholly disproportional share of the sheep of the county, while Dane is kept in the table as an example of negative results which are likely to obtain where the classification is on too broad a scale.

*Table showing size of estates in representative towns for the years 1870, 1890, 1899.*

| WHERE LOCATED. | Year. | No. of Estates. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Under 10 acres. | 10 to 20. | 21 to 39. | 40 to 79. | 80 to 159. | 160 to 320. | Over 320 acres. | Total No. each year. | Average in acres. |
| MIXED FARMING TOWNS. | | | | | | | | | | |
| Dane | 1870 | 0 | 1 | 0 | 34 | 85 | 45 | 1 | 166 | 135.4 |
| | 1890 | ...... | ...... | 9 | 51 | 86 | 45 | 2 | 193 | 115.8 |
| | 1899 | ...... | ...... | 7 | 43 | 78 | 38 | 3 | 169 | 138.8 |
| Fitchburg | 1870 | 0 | 1 | 0 | 22 | 86 | 47 | 6 | 162 | 141.74 |
| | 1890 | 2 | 2 | 6 | 43 | 82 | 48 | 4 | 187 | 122.8 |
| | 1899 | 2 | 1 | 6 | 42 | 84 | 43 | 5 | 184 | 124.8 |
| Vienna | 1870 | 0 | 3 | 1 | 23 | 68 | 61 | 4 | 160 | 143.9 |
| | 1890 | 1 | 14 | 5 | 36 | 57 | 57 | 4 | 174 | 132.4 |
| | 1899 | 1 | 7 | 5 | 38 | 71 | 53 | 3 | 178 | 129.1 |
| York | 1870 | 0 | 0 | 0 | 26 | 77 | 58 | 4 | 165 | 138.6 |
| | 1860 | 0 | 1 | 3 | 55 | 71 | 53 | 3 | 186 | 122.9 |
| | 1899 | 0 | 2 | 2 | 49 | 77 | 52 | 2 | 184 | 124.3 |
| TOBACCO TOWNS. | | | | | | | | | | |
| Albion | 1870 | 2 | 6 | 2 | 31 | 86 | 34 | 2 | 163 | 137.7 |
| | 1860 | 23 | 59 | 23 | 100 | 98 | 19 | 3 | 325 | 69.06 |
| | 1899 | 20 | 61 | 29 | 97 | 109 | 15 | 1 | 332 | 67.9 |
| Christiana | 1870 | 0 | 4 | 4 | 14 | 51 | 46 | 2 | 121 | 185.7 |
| | 1890 | 5 | 55 | 29 | 70 | 92 | 27 | 0 | 278 | 81.9 |
| | 1899 | 8 | 61 | 25 | 67 | 106 | 24 | 0 | 286 | 76.7 |
| DAIRY TOWNS. | | | | | | | | | | |
| Perry | 1870 | 0 | 2 | 1 | 17 | 71 | 55 | 4 | 150 | 154.5 |
| | 1890 | 4 | 21 | 6 | 45 | 83 | 45 | 3 | 207 | 111. |
| | 1899 | 4 | 10 | 5 | 37 | 74 | 52 | 4 | 186 | 123.2 |
| Vermont | 1870 | 0 | 0 | 0 | 23 | 92 | 40 | 1 | 156 | 149.6 |
| | 1890 | 5 | 5 | 9 | 45 | 89 | 50 | 1 | 204 | 114.04 |
| | 1899 | 2 | 2 | 5 | 31 | 86 | 48 | 5 | 179 | 129.5 |

It will be seen that in 1870 the number of small estates, say below twenty acres, was about the same for the different towns, what difference there is, however, being in favor of the towns which still lead in this respect. This was on account of social rather than economic causes; the poorest of the foreigners sometimes dividing a forty into two or more pieces while the Americans usually scorned such little patches. Running over the different groups for the year 1870, one can draw no particular inference respecting the different types of towns. It appears that the same kind of farming had resulted in farms of approximately the same size, and the variations that do occur seem to be the result of social forces, or mere chance. It is noticeable that in the tobacco towns the number of estates below forty acres increased from eighteen in 1870 to two hundred four in 1899; a very large increase; while in the case of estates of one hundred sixty to three hundred twenty acres the decrease is more than fifty per cent. and estates over three hundred twenty acres have all but disappeared. In dairy towns estates below forty acres show a decided falling off; the next larger group increases up to 1890 and then takes a considerable drop; in the remaining groups the increase in number is definite and almost uniform, though not very great. Thus the tendencies in the dairy district seem almost the exact counterpart of those in the tobacco district, the latter showing a movement toward small estates, the former toward those comparatively large. In the three towns characterized as mixed farming areas we find but few estates below forty acres and they seem to be disappearing since 1890. The medium-sized estates show a slight increase in number, while those which may be called large, that is above one hundred sixty acres, have declined in numbers in every instance. Dane remains, and here we have a paradox. The number of estates in each group, with the single exception of the one comprising those above three hundred twenty acres, decreased between 1890 and 1899.[80] When the plat of the town is seen this peculiar result is at once explained: there has been a general increase of size within each group, but it so happens that the larger share of the farms have their boundaries enlarged by the addition of a twenty or forty, and still stayed within the group, yet thirty-two estates disappeared altogether. The exception to the decrease seen in the largest sized estates is of no significance as the additional one is not extremely large.

It may be noticed further that in the town of Christiana the average size fell from eighty-two acres in 1890 to seventy-seven acres in 1899. During the same period the change in the town of Perry was from one hundred eleven acres to one hundred twenty-three acres; yet if these two be averaged there is little meaning to the result.

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[80] The first of the two groups is here omitted on account of the difficulty of distinguishing estates from wood-lots belonging to someone a few miles distant, often in another town or even another county, but there are few small estates in the town and the result could not thus be seriously changed.

No better illustration of the point in question could be found than the census figures for Wisconsin which show the average size of farms to be one hundred fourteen acres for the years 1860, 1870, and 1880, yet all sorts of changes must have been in progress.

It may be of some slight consequence to know that the size of estates in those two towns is on the increase, just as it may be of some avail for a dealer in fruit to know that the average price per bushel of apples, pears, and grapes taken together has fallen ten per cent., but before he makes further sales or purchases it will be necessary to inquire into the market. Thus before anything can be predicated as to the changes in landed estates it would seem desirable to know what is taking place under the various systems of farming within definite physiographic areas, and during periods of time which have some business significance, rather than to take arbitrary divisions of both time and territory, and adding together the like and the unlike, strike general averages, into which, and out of which, the economist and the historian may read results illustrative of pre-conceived notions.

It may finally be said that there is positively no tendency in this county toward either large estates or large farms.

# CHAPTER VI.

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## LAND VALUES.

In discussing the values of land at the various periods it is necessary to deal with data gathered from many scattered sources and differing widely in trustworthiness. Anyone who has given the question of real-estate values serious consideration is aware of the fact that the subject is a slippery one. Politicians, and even historians, talk glibly about the rise and fall, or the stability of farm values, without giving any basis for the generalizations, and if the present treatment does nothing more than to show unmistakably the character of the matter that must be wrestled with before dogmatic statements should be made, it is felt that some purpose has been served. Not that it is impossible to arrive at definite results; by no means; but that unusual care must be taken, and the figures must be criticised, corroborated, and subjected to conscientious analysis before conclusions worthy of the name can be reached. To begin with, it seems desirable to pass in review some of the more weighty obstacles which confront the man who has occasion to pass judgment on the value of a farm as compared to the difficulties in valuing personal property. It may be said that in the case of valuations for assessment of taxes it is the latter, not the former kind of property that causes the trouble. Very well; but the question of finding personal property and of putting a fair price on it when once it is brought to light are two very distinct propositions.

The kinds of personal property which are considered fit subjects for taxation are, almost without exception, such things as are daily bought and sold on the market. Perhaps an importer of fine woolens may hoodwink the custom house officer into listing it for a third of its actual value, but this is a fault to be charged to the clumsiness of the system as well as to intrinsic difficulties involved in judging cloth. The same can be said of merchandise in general; it also holds good in the case of bank stock or live stock—they are daily and hourly put upon the market in large or small quantities as circumstances may determine and what they bring may be taken as their real values. And will not the same hold true of real estate? It will, unquestionably, except—and the exception is the all-important thing to be understood—that land is not normally a kind of property to be bought and sold in the ordinary course of business transactions which the wants of man and the division of labor make necessary. For the most part the sale of land pre-supposes a change of business or a change of residence, which is entirely wanting in the usual buying and selling of chattels. This is entirely true of rural real estate however it may vary in the case of cities. Very few farms are the subject of speculation, though they are sometimes so considered when held for long periods by non-residents as permanent investments. Another difficulty comes in the matter of classification; cattle, grain, groceries, what not, can be put into grades and quoted at prices with reasonable accuracy, but in grading land only the roughest outlines can be set and even these must be elastic or they will be obliterated by over-lappings and exceptions.

Another difficulty, and this probably as serious as any, is in the records of sales. The carefulness and accuracy with which records of transfers of land are made may seem at a glance to make it possible to investigate this phase of prices more easily than in the case of personal property, but when the purpose of the record is considered the balance is found on the other side. When even so loose an authority as a newspaper quotes wheat at fifty cents, and calico at ten cents, at a date now out of memory, it may safely be assumed that these prices are approximately correct. In the first place there are probably no reasons for deliberate misstatements; more than likely the accuracy may be tested by comparison with other quotations. And, moreover, the sole purpose of publishing the price-list was to let it be known that goods could be bought and sold for the sums named. On the other hand, a piece of land is sold, and the deed, containing a statement of the consideration, is recorded by a county officer and the record carefully preserved. But the ultimate reason, in fact all save the only reason, is to furnish proof that the farm was sold by one person to another, each of whom was competent to be a party to such a transaction, and each properly identified as the person whose name appears in the instrument of conveyance. As to the price named it is a mere form to satisfy one of the fundamental requisites of a contract, that is, that there must be a consideration.

We find, then, that the consideration named in the deed may bear almost any possible relation to the price actually paid. In the concrete instance of Dane county it will be seen by a mere glance at the early record books, that there is no possibility of tracing any considerable proportion of sales for those years. The complications resulting from partnerships when small undivided fractions of widely scattered pieces of land were sold, or worse yet, traded for merchandise in Baltimore or bank stock in New York, render the whole mass unintelligible. So dropping these we turn to smaller individual sales and the confusion, though very much less, is still sufficient to preclude any possibility of satisfactory results. A man sells a piece of land, classed by the assessor or census-taker as improved land; the improvements may vary from a mere trifle to the major part of the value. Nor is this all; there may have been some personal property transferred, either one way or the other, and pride, carelessness, or dishonesty may have prevented any mention of it in the deed. In going over some hundreds of records in the office of the register of deeds it was found that out of every hundred there were a few obviously unreliable, not to mention such transactions as involved chattels. For example, a farm is sold three times within a year, and although land is known to be advancing in price, the sum named in the deed remains the same. This is not a clear case of failing to name the sum actually paid but in all probability it is such. Another class of transfers which must be dealt with cautiously are those where land is transferred from one to another member of the same family, yet after the family is gone from the vicinity it is unsafe to label every transfer of Smith to Smith as one of this class, and again, even the suspicion of such a case may be hidden by the different surnames of persons who, after all, belong to one family. A mother deeds two pieces of land to two married daughters, the price named is a nominal one taken at a hazard, or merely to strike a rough balance of accounts and yet these figures will slip into a list made up by a serious investigator for scientific purposes.

Shall we then conclude that it is a hopeless task to arrive at credible results in the rise and fall of land values? Not at all. It does, however, appear plain that no one method is without faults, and therefore that all possible checks and comparisons are needed, but more than all these, the worth of the results depends almost entirely on the knowledge, patience, and skill of the one on whose judgment the elimination, balancing, and computation depend.

It seems reasonable that the history of the transfers of a given piece of land, about which the exact conditions of each transfer may be known, is much more valuable than an aggregate of sales where little or nothing is known in detail; and also that the recollections of men who helped to make the history of the times, and whose business it was, in part at least, to know the selling value of land, is testimony worthy of careful consideration. It is in this composite way that the material for the following discussion was obtained. The elements entering into land values will be touched upon at the close of the chapter.

To begin with we will notice the significance of the aggregate sales and average prices for a series of years as reported by the register of deeds.[90]

*Land sales of Dane county.*

| Year Ending Sept. 1. | No of sales. | Acres sold. | Price per acre. |
|---|---|---|---|
| 1845 | 113 | 10,921 | $2 84 |
| 1855 | 745 | 68,894 | 9 68 |
| 1865 | 338 | 24,613 | 17 08 |
| 1875 | 46 | 3,635 | 21 80 |
| 1880 | — | 23,872 | 20 91 |
| 1883 | — | 32,929 | 32 24 |
| 1885 | 258 | 32,288 | 31 40 |
| 1887 | — | 9,299 | 29 00 |
| 1890 | — | 18,491 | 31 00 |
| 1895 | 198 | 17,677 | 43 50 |
| 1896 | 206 | 18,333 | 46 65 |
| 1898 | 181 | 12,538 | 45 60 |
| 1899 | 290 | 21,282 | 44 30 |

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[90] For the years before 1885 the figures were made out directly from the record books at the office of register of deeds.

Before 1845 little land sold under warranty deed, and the land that did change hands was for the most part in the nature of transfers of preëmption rights or a sale of the improvements where the land itself was reckoned at government price and the purchaser of the improvements took his chances of getting it whenever it should be put upon the market. By 1845 many mortgages fell due and in very few instances was the mortgagor ready to meet his obligation and this must have been the cause of many transfers. There was so much fairly good government land still to be had it is unreasonable to suppose that the land, aside from the improvements, could be worth much above the original dollar and a quarter an acre. This supposition is well borne out in the price for which land sold, for on an average there was a margin of but one dollar fifty-nine cents to include both the value of the improvements and the rise, making it probable that the rise was practically nil. Ten years later the matter had a decidedly changed aspect. The reasons are apparent: government land had ceased to be a factor in land values, since little of a desirable quality remained; the excitement over wheat during the boom of 1854 resulted in a marked rise in land, and although the boom was exceedingly brief, a considerable part of its force was expended between September 1, 1854, and the following spring, that is, within the year for which the figures are taken. Thus in all likelihood the average price is not only higher than for any previous year, but the rise during the year ending September 1, 1855, was proportionally greater than for any previous year. The inability to meet payments was still a great factor in land sales; in fact, it was during the '50's that the influence worked out its greatest results, and, as is often remarked by the old settlers, a comparatively small proportion of the pioneers kept the land first entered. They sold out when compelled to do so, and moved to a location a little less desirable, or to one where a farm could be had on time, and began again.

In 1865 the results are interesting. The number of sales was less than half that of 1855, while the price seems to have advanced in about the same ratio as in the preceding decade. But it must be remembered that this seventeen dollars an acre was reckoned in greenbacks, which were worth about seventy cents on the dollar. Thus it is entirely fair to say that land had not risen over about two dollars per acre, and this would certainly not exceed the value of the improvements made since 1855; or in other words, land had failed to make any rise whatever. The explanation is simple: land had failed to respond to the general rise of prices because the farmers had gone to war, leaving an inadequate force to carry on the ordinary farm operations; the general unrest of the times led many to seek new homes in the farther West, thus putting their Wisconsin farms on the market at a time when buyers were few. Wheat was not yielding returns for the immediate expenses of raising; it could not compete with the new lands of the West, and other crops were not sufficiently well established to create a demand for land on which to grow them; as a result, much old wheat land was not wanted at any price.

This might seem to mark the year as an abnormal one, but when it is remembered that the same conditions had existed for three or four years before, and continued till near the close of the '60's, it appears to be a fair example for our purpose. It is the year 1875 that is farthest removed from the normal, for here we find the sales to be less than one-seventh as many as ten years before. Again the reasons for the situation are not obscure. The price of land had made a considerable advance as business recovered its stability in the early '70's. With the collapse of 1873 sales became few, but did not reach the lowest ebb till two years later, by which time the discouraged farmer was reluctant to put any more money into land, and yet he was equally reluctant to sell at a sacrifice. This is reflected in the figures of the table; the few farms sold, brought a fair price.[91] Emigration to the West had continued, but this was partly offset by the new system of farming, and the inventions in agricultural machinery, both of which enabled a farmer to manage more land with a given amount of labor. It was, then, conservatism rather than any active agency that kept land from sinking below the prices reached in better times,[92] and the new elements in farm economy were still too rudimentary to force the price up.

It would seem, then, that the results of the table are fairly reliable in the sense of showing the general trend of farm values.

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[91] Currency was now worth about $.87½.

[92] In 1880 there were twenty-three thousand, eight hundred seventy-two acres sold at $20.91, but this was on a gold basis and, therefore, does not represent a decline.

In the first place, the number of sales is large and therefore the percentage of error coming from the unusual instances should be small. Another matter of consequence is the comparative insignificance of the improvements throughout this period. True, some of them were good, but on an average, they were far from it, and thus the upper and the lower limits of prices were not very far apart. Land could be classified as arable and not arable, and within each of these two classes the variation was not great. Since about 1875 these classes have almost disappeared, as dairy farming has made both swamp and hilly land more valuable than ever before, and the more desirable lands are carefully differentiated according to the crops which they produce to the best advantage. Houses and barns, fences and windmills, and improvements of every description have added to the value of many farms from twenty-five to a full hundred per cent. The chance element is thus much greater for the later years, yet the results do not appear meaningless.

By 1883 business was again brisk and land was once more in the ascendency, 32,929 acres being sold at an average price per acre of $32.24. The year 1885 shows a little drop from this in both acres and price, but the change is not sufficient to warrant any generalizations. Perhaps it was due to the fall in the price of farm produce, but just as likely the discrepancy would be explained by a minute classification and comparison of the land sold. It was at this time that tobacco land first began to command a premium; also the hilly land in the southwest part of the county rose in price as never before. A year is a short period in the history of land and it often happens that for a given year there will not be over two or three sales in one town, while a dozen are made in a town adjoining, with no visible reason, and the next year may see the matter reversed. The sales of 1887 seem to show a decided drop in price, 9,299 acres selling at twenty-nine dollars. In the first place, the sales are small and it is possible that a third of this was swamp land, which always goes at a low figure; but without guessing, the apparent decline can be shown to be nothing formidable. The report of the register of deeds gives the sales by towns and we find that more than one-fourth of the land sold, 2,521 acres was in five of the poorest towns of the county, and this land averaged less than seventeen dollars per acre, while in five of the towns where land was high, only 1,046 acres changed hands, but the price was more than forty-five dollars per acre. The average taken within a single town means little enough, but when the average involves towns lying in districts so unlike as the tobacco section and the dairy section of Dane county, the vagueness of the result is obvious. In reality the prices of land in both these sections advanced between the years 1885 and 1887, and it was the mere incident of many sales in the one and few in the other that gave the appearance of decline. In 1890 the sales were well distributed among the towns. and the price was approximately as in 1885. Between 1880 and 1885 there was much excitement over tobacco growing, and choice land for that purpose sold for one hundred dollars an acre. During the last half of the '80's the tobacco business experienced a relapse, and this accounts for the small number of sales in that district, while at the same time the interest in dairying continued, and in consequence there was a marked movement in lands suitable for that purpose. A general averge conceals these facts and appears to show a decline in all land values.

Coming to the latter part of the '90's, we have some excellent data on the subject of values. The Wisconsin State Tax Commission has calculated the value of all property of the state, and its method of computing farm values is no doubt as reliable as any yet in use. They took the whole number of sales as reported by the register of deeds for the years 1895 to 1899, inclusive, and after eliminating such as were obviously not bona fide sales, the acres sold in each town were taken year by year and the rate per cent. of assessment to selling price computed. This was done for each town for each of the five years. Then an average rate was struck for the period and with this ratio of assessment to selling price, or true value, and the total assessed value, the true value of all land of the town was found, the process being merely a case in simple proportion. With this elaborate process it turns out that the average value of land for the entire county during the five-year period is forty-seven dollars per acre. This, it will be noticed, is a trifle higher than it would appear from the prices based simply on the assumption that actual sales may be taken as representative, but the difference between the two results is not serious. No doubt the percentage of assessment to selling price gives the better basis for estimating values, yet for the purpose of showing the general movement of prices the average of sales seems fairly satisfactory; at least the same percentage of error which appears in the results by this method for the period 1895 to 1899 would not be sufficient to change the general trend, and for reasons already given it is believed that the error would be much less over a good part of the early period. Again it may be said that land has never yet declined in price in this county. The average for 1896 is higher than in succeeding years, but as shown for a previous year, this deceptive average comes from an uneven distribution of sales. In the few dairy towns where land is cheap, eight hundred acres were sold at about twenty-two dollars per acre, while in four towns in the opposite corner of the county more than three times as many acres changed hands at fifty-five dollars per acre. In the years following, when the price seems lower, the sales in the dairy section were two or three times as great, and in the other section much less than for the year 1896.

It is of interest to notice that the valuations of real estate for the four distinctive tobacco towns fall below that of four other towns where almost no tobacco is raised. This, however, may not be considered a fair comparison, as the town of Madison, where proximity to the city gives an added value, was included in the latter group; but taking four towns in the northeastern part of the county, where there is not even a village of any consequence, the price of real estate falls but little more than two per cent. below that of the tobacco-growing section. Surely this is conclusive evidence that tobacco growing is not responsible for any considerable part of the advance in farm values; yet, as before admitted, the very choicest of tobacco land sells higher than any other.

In looking over the records for some forty or fifty pieces of land, with data as to improvements and quality of land, it is remarkable that the results coincide closely with those reached by the statistical treatment used above. The prices in the individual cases are much higher, but that is because no swamp or hilly land was considered. Swamp land is still sold as low as five or ten dollars per acre, and some of the roughest land is hardly salable at all. The choicest land is worth nearly one hundred dollars an acre where improvements are an inconsiderable part of the value, and a great deal of land with good improvements, say three thousand dollars worth on two hundred acres, sells for eighty dollars, leaving the bare land at sixty-five.

With land at this high figure can it go still higher, or must it cease to rise? In the first place, the causes of the present high price are of interest. No one pretends that the average farmer can make actual returns on the investment in the highest-priced land; far from it. It takes the best of them to make more than the current rate of interest. Yet land not only shows no tendency to drop in price, but persists in climbing steadily upward. In the first place, the entire agricultural community has implicit confidence in the stability of farm values; on the other hand, they expect a decline in the rate of interest, and they often express the belief that an investment in land, where the returns are three or four per cent. a year, is sure to be better in a term of years than twice that rate from other investments, because of the rise in the value of the land itself, and because of the comparative safety of land as an investment. There have been not a few instances of men who have felt that land at eighty dollars an acre was not yielding proper returns and so disposed of it, but on getting hold of the money found no better place to put it, and again bought land at a price as high as that received. Land, above all other kinds of property, is the best place for the man unfamiliar with business to invest his money. The owner of land has a home; living in the country is much less expensive than in the city or even in a village; and besides, many people prefer to live in the country. The constant increase of the conveniences of farm life must also be a factor in keeping the price of land at a high level. Just as improved street-car accommodations raise the price of suburban property, so the telephone, now to be had almost as cheap in the country as in town, the free delivery of rural mails, the improvement of country roads, the lessening cost of comfortable and attractive carriages, must result indirectly in adding value to the farms. The cheapening and improvement of farm machinery gives a chance for added net returns, and perhaps more than any or all of these influences the constant falling in interest charges makes land a favorite investment. What effect the latent possibilities of the West have in store for us will not be known until irrigation is reduced to a more scientific basis and extended to fields as yet untried. This might conceivably have somewhat the effect on the Mississippi Valley that the latter had on the farming of the eastern and middle states, but at present the limit of the upward trend of land values is not in sight.

# CHAPTER VII.

## DENSITY OF POPULATION.

The table below, showing density of population, has been carefully made out with the intention of giving changes in population actually on farms. This has not been altogether possible, but where villages are included the fact is mentioned.

The first thing of interest is the large population of 1860, and the comparatively uniform distribution over the county, indicating that about all the available land was occupied. From 1860 to 1870 ten different towns show a decrease; that was, at least in part, owing to the large numbers who entered the army and failed to return, or who returned, but with others had gone to the new lands of the West before 1870.

At least twenty-three towns show a decline in the decade following, this being the time of the greatest exodus of discouraged wheat growers in search of greener fields. At the same time there was a marked increase in some half-dozen towns, and with unimportant exceptions the increase was in Albion, Dunkirk, Christiana, and Pleasant Springs, that is to say, in the towns that were fast coming to the front in the new business of tobacco growing.[93] Farms were divided, either by sale or rent, and more help was needed to raise tobacco than had been required in general farming.

From 1880 to 1890 there was a decrease in some fourteen towns and an increase in about an equal number. Here we find the same influences at work. The increase is in the tobacco district, following the spread of the crop to new towns, noticeably Burke and Cottage Grove. The increase in tobacco culture and the increase in density of population, fail, about this time, to coincide as closely as during the earlier period because the application of machinery to tobacco raising made it possible to dispense with a part of the labor, and also because the tendency to subdivide farms has been less pronounced since about 1885.

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[93] Dane and Cottage Grove show increases, but this was owing, for the most part, to villages which had recently taken a start.

In the last decade twenty-two towns show a gain, and eight a decline, the rest being the same as before or doubtful. Here the trend seems to vary from former periods in some particulars: the tobacco sections show an advance of four per cent.; while the advance of the whole county is eight per cent. Evidently those who desire small farms for tobacco growing are finding them outside of the distinctive tobacco district; this might be hard to establish, but it is certain that tobacco culture has spread to nearly every town of the county, and that within the last ten years. In the general farming towns the better culture practised in all respects has resulted in the employment of more farm laborers, and the tendency toward smaller farms[94] means an increase in density of population.

It remains to speak of population in the dairy section. In the towns of Perry, Montrose, Springdale, and Vermont, there has been an almost uniform decline for the three decades since dairying became important. Vermont, which has become more exclusively a dairy town than any other in the county, shows a decline in population of almost thirty-four per cent. during the thirty years. The remaining towns which show declines for the whole period are those where dairying is fast gaining on other kinds of farming, as in Middleton and Oregon.[95] Still, two more, Roxbury and Berry, show a marked decline in population and these towns are not easily classified; they are settled very largely by Germans; are, for the most part, hilly and broken, and as wheat growing, which persisted longer with them than in other parts of the county, had finally to be given up, the hills were turned almost entirely into pastures. The conditions and the results are thus practically the same as in the dairy district, and no doubt these towns will before long be classed as dairy towns.

A smaller number of people are required to farm a given number of acres by dairying than by any other system of farming in this section, and the decline in population in the dairy district means that an economic adjustment is taking place and tells nothing as to prosperity or dissatisfaction of farmers in general.

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[94] See chapter on Size of Farms and Estates.

[95] The villages of Middleton and Pheasant Branch were larger in 1870 than in 1890, but the exact numbers cannot be found.

Considering the county as a whole, the substantial gain in rural population during the past ten years would hardly seem to mark it out as a good subject for dissertations on "rural depopulation."

*Density of population per square mile, 1850 to 1900.**

| Towns. | 1850. | 1860. | 1870. | 1880. | 1890. | 1900. |
|---|---|---|---|---|---|---|
| Albion | 23.7 | 32.1 | 31.8 | 37.6 | 42.2 | 44.2 |
| Berry | .......... | 18.7 | 32.2 | 29.6 | 27.9 | 25.9 |
| Blooming Grove | 9.7 | 23.4 | 33.7 | 30.9 | 33.3 | 27.3 |
| Blue Mounds | .......... | 22.3 | 32.4 | 28.0 | 40.2† | 29.1 |
| Bristol | .......... | 34.9 | 35.4 | 31.4 | 31.1 | 35.2 |
| Burke | .......... | 28.5 | 31.3 | 27.9 | 30.4 | 34.2 |
| Christiana | 29.3 | 39.8 | 37.4 | 51.5 | 66.0 | 66.6 |
| Cottage Grove | 21.8 | 33.3 | 26.5 | 32.3 | 36.3 | 36.3 |
| Cross Plains | .......... | 31.3 | 28.0 | 37.0 | 30.1 | 33.5 |
| Dane | .......... | 26.5 | 29.0 | 32.4‡ | 32.4 | 25.9 |
| Deerfield | 17.7 | 26.4 | 29.1 | 27.0 | 34.3 | 30.6 |
| Dunkirk | 23.7 | 48.9 | 33.2 | 35.6 | 39.1 | 42.6 |
| Dunn | 10.6 | 34.0 | 37.8 | 33.5 | 32.6 | 34.1 |
| Fitchburg | 16.6 | 32.7 | 32.1 | 32.5 | 26.6 | 27.9 |
| Mazomanie | .......... | .......... | .......... | .......... | 14.9 | 16.4 |
| Medina | .......... | 29.7 | 42.5 | 39.1 | 38.7 | 41.2 |
| Middleton | .......... | 40.1 | 50.8 | 42.0 | 39.9 | 43.1 |
| Montrose | .......... | 28.4 | 32.2 | 30.8 | 25.9 | 27.7 |
| Oregon | 17.7 | 34.9 | 41.6‡ | 27.5 | 23.3 | 24.4 |
| Perry | .......... | 23.3 | 29.2 | 25.6 | 27.7 | 29.2 |
| Pleasant Springs | 21.6 | 33.4 | 30.4 | 37.6 | 44.2 | 42.7 |
| Primrose | .......... | 24.7 | 28.2 | 24.4 | 24.4 | 22.7 |
| Roxbury | .......... | 34.2 | 33.5 | 32.1 | 29.8 | 26.8 |
| Rutland | 21.1 | 32.8 | 31.6 | 31.6 | 31.5 | 36.0 |
| Springdale | .......... | 26.2 | 31.6 | 30.6 | 31.2 | 29.2 |
| Springfield | .......... | 33.6 | 40.0 | 34.5 | 30.9 | 30.8 |
| Sun Prairie | .......... | 32.2 | 44.8‡ | 25.3 | 25.6 | 25.8 |
| Vermont | .......... | 25.7 | 34.6 | 26.8 | 24.8 | 22.9 |
| Verona | .......... | 32.0 | 31.3 | 28.3 | 34.0 | 36.1 |
| Vienna | .......... | 20.8 | 32.6 | 29.2 | 27.8 | 29.1 |
| Westport | .......... | 31.8 | 46.0§ | 28.6 | 31.5 | 44.6 |
| Windsor | .......... | 28.4 | 34.9 | 33.6 | 36.9 | 50.1 |
| York | .......... | 28.6 | 29.6 | 27.8 | 26.7 | 26.2 |

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* This table is partly taken from a thesis on the "The Social and Economic Development of Dane County," by F. E. Harrigan, University of Wisconsin, 1901. The other parts were worked out from the Census Reports.

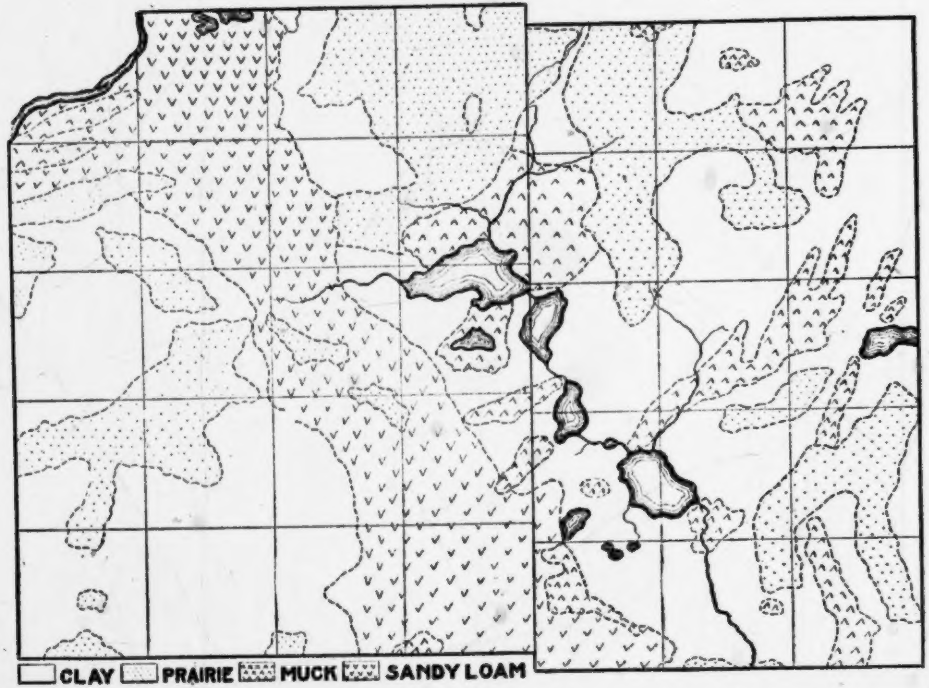
† For this and preceding years a village was included. Black Earth and Madison are omitted because it is impossible to separate the village and city populations from the rural.

‡ For this and preceding years a village was included.

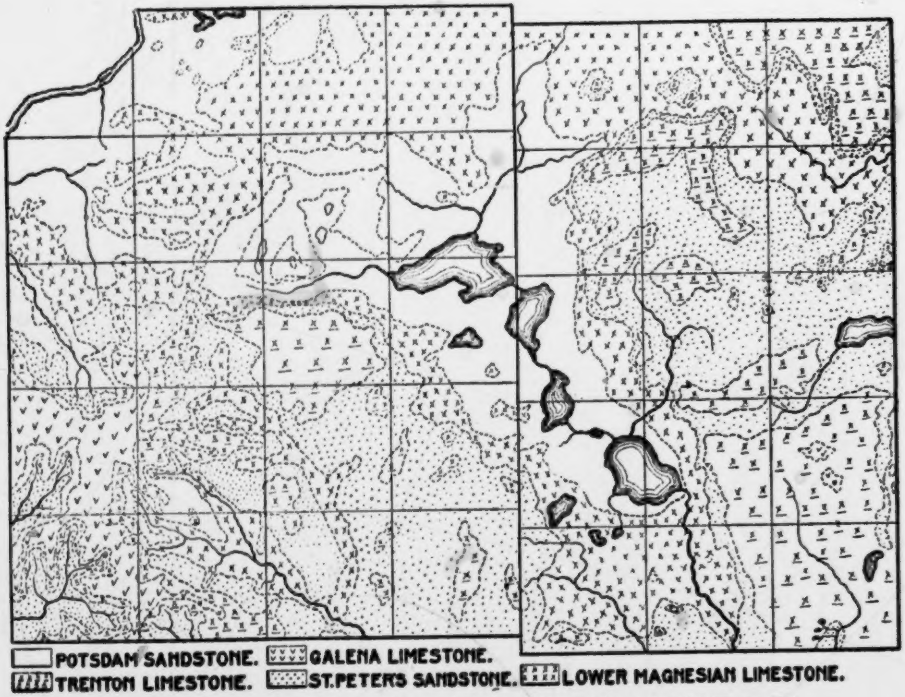
§ Probably this included inmates of the insane asylum.

# APPENDIX.

I.—GENERAL GEOLOGICAL MAP.


CLAY
PRAIRIE
MUCK
SANDY LOAM

II.—SOIL AND VEGETATION MAP.[1]


POTSDAM SANDSTONE.
GALENA LIMESTONE.
TRENTON LIMESTONE.
ST. PETER'S SANDSTONE.
LOWER MAGNESIAN LIMESTONE.

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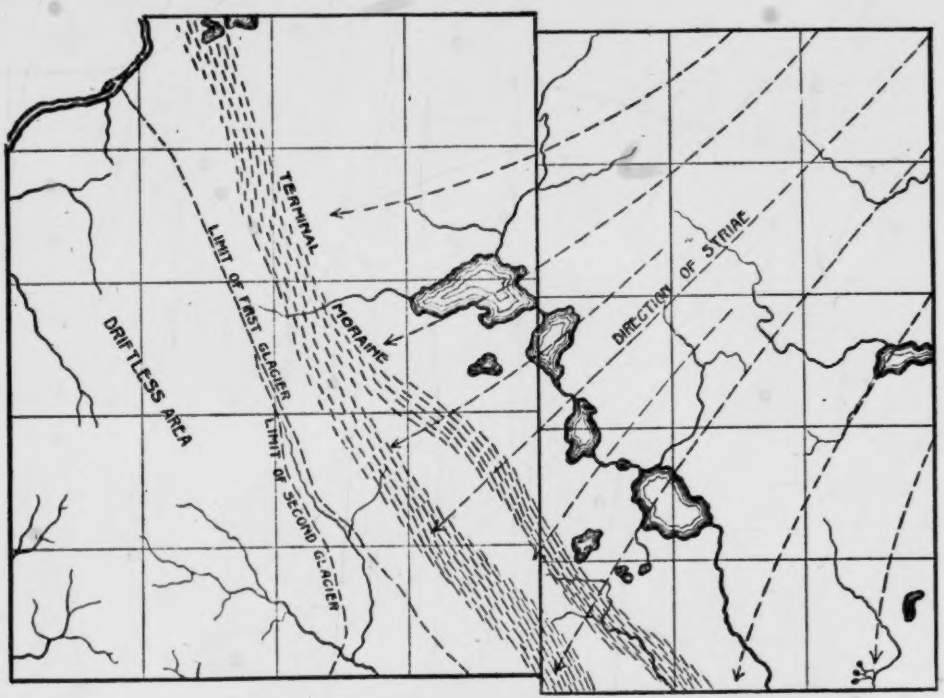
[1] This map answers roughly for a vegetation map. Oak predominates on the clay, and sandy loam; prairie grass on the prairie soil; marsh "grasses" on the muck.

III.—GLACIAL MAP.


TERMINAL MORAINE
DIRECTION OF STRIAE
LIMIT OF FIRST GLACIER
LIMIT OF SECOND GLACIER
DRIFTLESS AREA

| | | | | | | |
|---|---|---|---|---|---|---|
| Mazomanie | Roxbury | Dane | Vienna | Windsor | Bristol | York |
| Black Earth | Berry | Springfield | Westport | Burke | Sun Prairie | Medina |
| Vermont | Cross Plains | Middleton | Madison | Blooming Grove | Cottage Grove | Deerfield |
| Blue Mounds | Springdale | Verona | Fitchburg | Dunn | Pleasant Springs | Christiana |
| Perry | Primrose | Montrose | Oregon | Rutland | Dunkirk | Albion |

TABLE I—*Principal farm crops.*

| | CORN. | | BARLEY. | | RYE. | | OATS. | |
|---|---|---|---|---|---|---|---|---|
| | Acres. | Bushels. | Acres. | Bushels. | Acres. | Bushels. | Acres. | Bushels. |
| 1840.... | ........ | 3,080 | ........ | ........... | ........ | ........... | ........ | 10,250<br>(and rye) |
| 1850.... | ........ | 122,290 | ........ | 19,080 | ........ | ........... | ........ | 243,700 |
| 1857... | 16,347 | 525,800 | 1,362 | 23,931 | 97 | 1,570 | 17,801 | 637,000 |
| 1860 ... | ........ | 570,500 | (1861)<br>2,523 | (1861)<br>84,520 | ........ | 4,043 | ........ | 900,800 |
| 1865.... | 23,164 | 390,174 | 21,208 | ........... | 1,050 | 9,181 | 32,336 | 760,446 |
| 1870.... | ........ | 938,000 | ........ | 148,700 | ........ | 15,600 | ....... | 1,491,000 |
| 1875.... | 71,592 | ........... | 13,507 | ........... | 2,997 | ........... | 63,431 | ........... |
| 1880.... | 89,940 | 2,279,000 | 22,775 | 402,400 | 4,748 | 69,000 | 72,150 | 1,919,900 |
| 1885.... | 81,716 | 2,770,000 | 34,197 | 964,000 | 3,011 | 78,000 | 75,541 | 2,246,000 |
| 1890.... | 85,000 | 2,164,000 | 31,000 | 784,000 | 4,900 | 64,000 | 91,000 | 3,085,000 |
| 1895.... | 87,300 | 2,095,000 | 12,700 | 205,000 | 3,968 | 44,500 | 116,000 | 2,292,000 |
| 1900.... | 109,800 | 4,048,000 | 11,800 | 431,800 | 3,762 | 46,165 | 118,300 | 3,291,000 |

TABLE II—*Principal farm stock.*

| | No. of horses. | No. of cattle. | No. of cows. | No. of hogs. | No. of sheep. |
|---|---|---|---|---|---|
| 1840........................ | 101 | 510 | ........... | 628 | 5 |
| 1850........................ | 2,056 | 14,493 | ........... | 13,585 | 8,122 |
| 1857........................ | 7,196 | 30,773 | ........... | 14,351 | 24,932 |
| 1860........................ | 8,959 | 28,000 | 14,319 | 19,290 | 17,700 |
| 1865........................ | 11,254 | 26,639 | ........... | 20,569 | 65,000 |
| 1870........................ | 19,416 | 36,900 | 17,890 | 28,000 | 65,590 |
| 1875........................ | 18,260 | 45,400 | ........... | 29,179 | 64,314 |
| 1880........................ | 19,900 | 54,459 | 21,665 | 57,900 | 79,400 |
| 1885........................ | 20,000 | 61,000 | 24,646 | 64,000 | 51,000 |
| 1890........................ | 25,480 | 83,590 | 33,590 | 97,200 | 37,052 |
| 1895........................ | 22,900 | 64,700 | 37,584 | 31,000 | 36,500 |
| 1900........................ | 19,000 | 69,000 | (1901)<br>41,323 | 41,400 | 32,153 |

TABLE III—*Miscellaneous.*

| | BUCK-WHEAT. | | FLAX. | | GRASS. (cult'd) | CLOVER SEED. | | TIMOTHY SEED. | | AP-PLES. | POTATOES. | | Tim-ber. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Acres | Bush | Acres | Bush | Acres. | Acres | Bush | Acres | Bush | Acres | Acres | Bush | |
| 1850.... | ...... | 1,464 | ... .. | 27 | ........ | ...... | 352 (c. t.) | ...... | ...... | ...... | ...... | 106,380 | ........ |
| 1857.... | 593 | 6,531 | ...... | ...... | 28,879 | ...... | 581 | .. .. | 551 | 1,102 (bu.) | 1,812 | 145,600 | ........ |
| 1860.... | ...... | 1,249 | 6 | 119 | ...... | ...... | 18 | ...... | 358 | ...... | .... . | 128,500 | ........ |
| 1865.... | 1,159 | 14,897 | 404 | 1,157 | ........ | ...... | 382 | ...... | 295 | 1,563 (bu.) | 2,261 | 167,600 | ........ |
| 1870.... | ...... | 10,470 | ...... | ...... | ........ | ...... | ...... | ...... | .. .. | ...... | ...... | 342,200 | ........ |
| 1875.... | ...... | ...... | ...... | ...... | ........ | ...... | ...... | ...... | ...... | ...... | ...... | ........ | ........ |
| 1880.... | ...... | ...... | 158 | 2,315 | 51,389 | 7,702 | 14,775 | 616 | 2,052 | 3,883 | 3,681 | 210,000 | 119,000 |
| 1885.... | ...... | ...... | 11 | 23 | 82,812 | 986 | ...... | 446 | 1,792 | 3,392 | 3,333 | 311,000 | 110,000 |
| 1890.... | 663 | 7,000 | 5 | 83 | 86,600 | 5,869 | 10,000 | 349 | 1,482 | 2,767 | 4,088 | 352,000 | 112,800 |
| 1895.... | 275 | 1,84[illegible] | 64 | .... | 82,000 | 861 | ...... | 488 | 2,298 | 2,139 | 6,326 | 256,000 | 80,000 |
| 1900.... | ...... | ..... | 64 | 243 | 98,000 | 909 | 1,464 | 176 | 666 | 2,200 | 6,123 | 330,000 | 84,950 |

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